XR-CA330/CA340

SERVICE MANUAL

Ver 1.0 2001.10

US Model
XR-CA330
E Model
XR-CA340

Photo: XR-CA330

Model Name Using Similar Mechanism	NEW
Tape Transport Mechanism Type	MG-36SZ12-32

SPECIFICATIONS

AUDIO POWER SPECIFICATIONS (US model)

POWER OUTPUT AND TOTAL HARMONICDISTORTION
22 watts per channel minimum continuous average power into 4 ohms, 4 channels driven from 20 Hz to 20 kHz with no more than 5 % total harmonic distortion.

Other specifications

Cassette player section

Tape track	4-track 2-channel stereo
Wow and flutter	0.13 % (WRMS)
Frequency response	30 – 15,000 Hz
Signal-to-noise ratio	55 dB

Tuner section

FM

Tuning range	**XR-CA330** FM tuninginterval: 87.5 – 107.9 MHz (at 200 kHzstep) **XR-CA340** FM tuning interval: 50 kHz/200 kHz switchable 87.5 – 108.0 MHz (at 50 kHz step) 87.5 – 107.9 MHz (at 200 kHz step)
Aerial terminal	External aerial connector
Intermediate frequency	10.7 MHz
Usable sensitivity	11 dBf
Selectivity	75 dB at 400 kHz
Signal-to-noise ratio	62 dB (stereo), 68 dB (mono)
Harmonic distortion at 1 kHz	0.7 % (stereo), 0.5 % (mono)
Separation	33 dB at 1 kHz
Frequency response	30 – 15,000 Hz

AM

Tuning range	**XR-CA330** AMtuninginterval: 530 – 1,710 kHz (at 10 kHzstep) **XR-CA340** AM tuning interval: 9 kHz/10 kHz switchable 531 – 1,602 kHz (at 9 kHz step) 530 – 1,710 kHz (at 10 kHz step)
Aerial terminal	External aerial connector
Intermediate frequency	10.7 MHz/450kHz
Sensitivity	30 µV

Power amplifier section

Outputs	Speaker outputs (sure seal connectors)
Speaker impedance	4 – 8 ohms
Maximum power output	45 W × 4 (at 4 ohms)

General

Outputs	Audio output Power aerial relay control lead Power amplifier control lead
Input (XR-CA340 only)	Telephone ATT control lead
Tone controls	**XR-CA330** Bass ±10 dB at 20 Hz Treble ±10 dB at 20 kHz **XR-CA340** Bass ±9 dB at 100 Hz Treble ±9 dB at 10 kHz
Power requirements	12 V DC car battery (negative earth)
Dimensions	Approx.178 × 50 × 178 mm ($7\frac{1}{8} \times 2 \times 7\frac{1}{8}$ in.) (w/h/d)
Mountingdimensions	Approx.182 × 53 × 161 mm ($7\frac{1}{4} \times 2\frac{1}{8} \times 6\frac{3}{8}$ in.) (w/h/d)
Mass	Approx.1.2 kg (2 lb 10 oz.)
Supplied accessories	Parts for installation and connections (1 set) Front panel case (1)

Design and specifications are subject to change without notice.

FM/AM CASSETTE CAR STEREO

9-873-346-01
2001J0500-1

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Sony Corporation
e Vehicle Company
Published by Sony Engineering Corporation

SONY®

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Flexible Circuit Board Repairing

- Keep the temperature of the soldering iron around 270 ˚C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

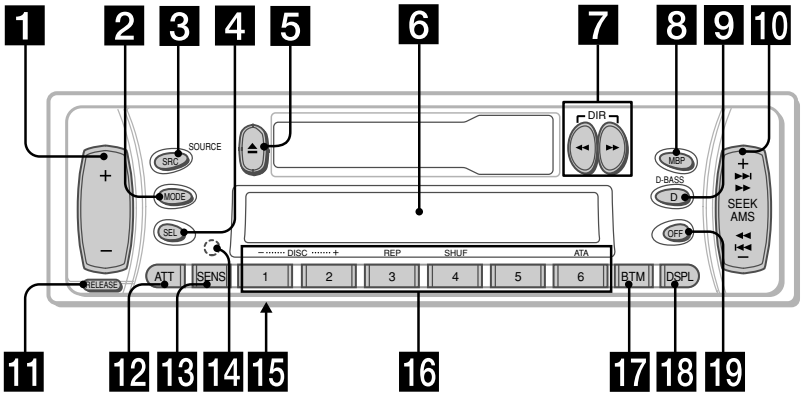
Notes on chip component replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

SECTION 1
GENERAL

This section is extracted from instruction manual.

Location of controls



Refer to the pages listed for details.

1 **Volume +/– button 7**

2 **MODE button**

During radio reception:
BAND select 8, 9

During CD/MD playback:
CD/MD unit select 12

3 **SOURCE (TUNER/CD/MD) button 8, 9, 12**

4 **SEL (select) button 7, 10, 11, 12**

5 **⏏ (eject) button 7, 8, 9, 12**

6 **Display window**

7 **◀◀/▶▶ (fast winding)/DIR (tape transport direction change) buttons 7, 8**

8 **MBP (My Best sound Position) button 11**

9 **D-BASS button 11**

10 **SEEK/AMS +/– button 9, 13**
Seek 9
Automatic Music Sensor 13
Manual search 13

11 **RELEASE (front panel release) button 6, 14**

12 **ATT (attenuate) button 10**

13 **SENS button 9**

14 **RESET button (located on the front side of the unit behind the front panel) 6**

15 **Frequency select switch (XR-CA340 only) (located on the bottom of the unit)**
See "Frequency select switch" in the Installation/Connections manual.

16 **Number buttons 8, 9, 10, 12, 13**
During radio reception:
Preset number select 9

During tape playback:
(6) ATA 8

During CD/MD playback:
(1) DISC – 13
(2) DISC + 13
(3) REP 13
(4) SHUF 13

17 **BTM button 8**

18 **DSPL (display mode change) button 7, 12**

19 **OFF button* 6**

* **Warning when installing in a car without ACC (accessory) position on the ignition key switch**
Be sure to press (OFF) on the unit for two seconds to turn off the clock display after turning off the engine.
When you press (OFF) momentarily, the clock display does not turn off and this causes battery wear.

Setting the clock

The clock uses a 12-hour digital indication.

Example: To set the clock to 10:08

1 **Press (DSPL) for two seconds.**

The hour indication flashes.

❶ Press either side of the volume button to set the hour.

to go forward

to go back

❷ Press (SEL).

The minute indication flashes.

❸ Press either side of the volume button to set the minute.

to go forward

to go back

2 **Press (DSPL).**

The clock starts.

After the clock setting is complete, the display returns to normal playback mode.

Installation

Precautions

- Choose the installation location carefully so that the unit will not interfere with normal driving.
- Avoid installing the unit in areas subject to dust, dirt, excessive vibration, or high temperatures, such as in direct sunlight or near heater ducts.
- Use only the supplied mounting hardware for a safe and secure installation.

Mounting angle adjustment

Adjust the mounting angle to less than 20°.

How to detach and attach the front panel

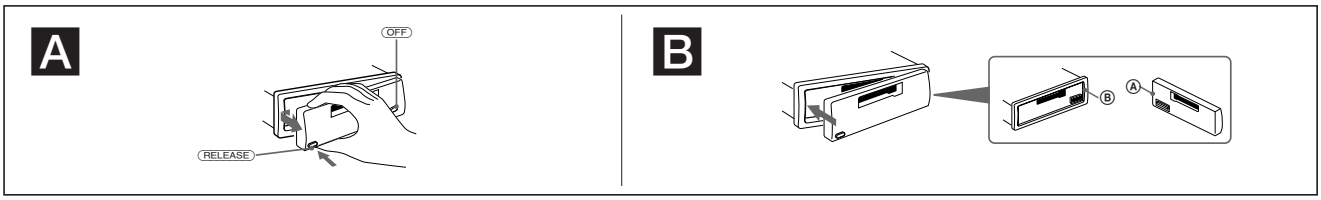
Before installing the unit, detach the front panel.

A To detach

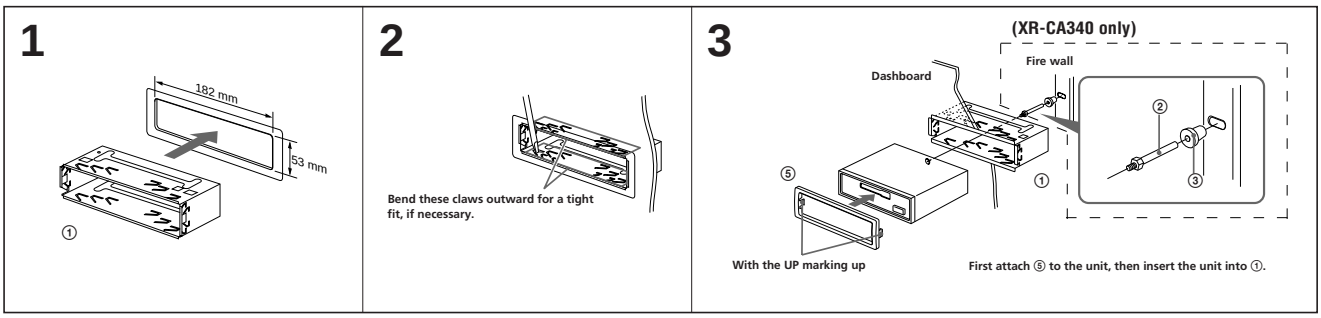
Before detaching the front panel, be sure to press (OFF). Press (RELEASE), then slide the front panel a little to the left, and pull it off towards you.

B To attach

Attach part Ⓐ of the front panel to part Ⓑ of the unit as illustrated and push the left side into position until it clicks.

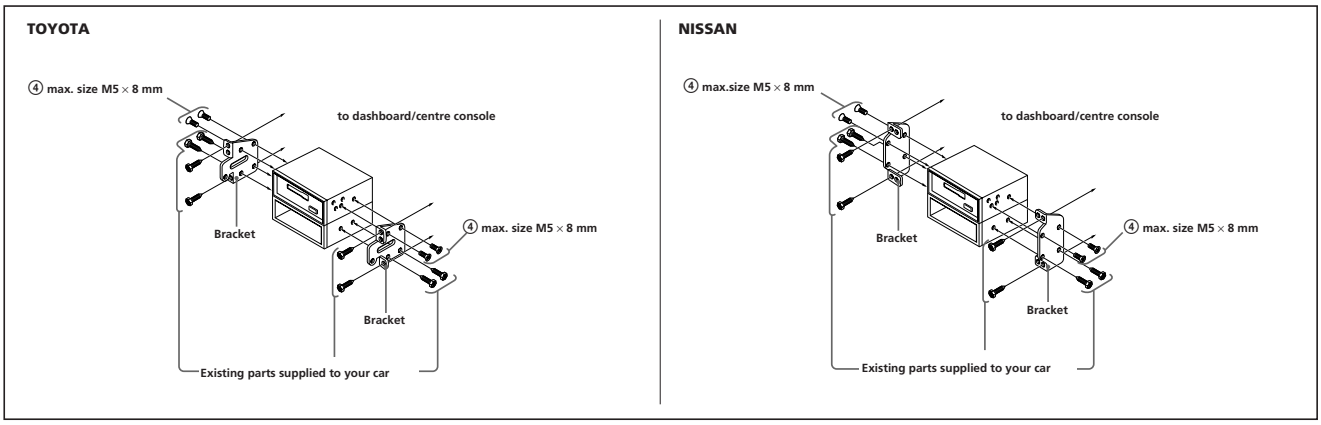


Mounting example (Installation in the dashboard)



Mounting the unit in a Japanese car

You may not be able to install this unit in some makes of Japanese cars. In such a case, consult your Sony dealer.

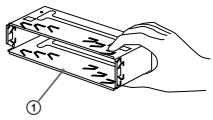


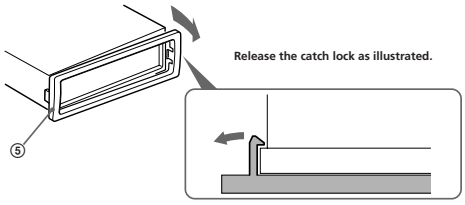
Note

To prevent malfunction, install only with the supplied screws ④.

Cautions

- Cautionary notice for handling the bracket ①.
  Handle the bracket carefully to avoid injuring your fingers.
- Remove the protection collar ⑤ before installing.





Connections

Cautions

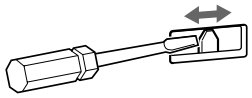
- This unit is designed for negative earth 12 V DC operation only.
- Be careful not to pinch any wires between a screw and the body of the car or this unit or between any moving parts such as the seat railing, etc.
- Before making connections, disconnect the earth terminal of the car battery to avoid short circuits.
- Connect the **yellow** and **red** power input leads only after all other leads have been connected.
- Be sure to connect the red power input lead to the positive 12 V power terminal which is energized when the ignition key is in the accessory position.
- **Run all earth wires to a common earth point.**
- Connect the yellow cord to a free car circuit rated higher than the unit's fuse rating. If you connect this unit in series with other stereo components, the car circuit they are connected to must be rated higher than the sum of the individual component's fuse rating. If there are no car circuits rated as high as the unit's fuse rating, connect the unit directly to the battery. If no car circuits are available for connecting this unit, connect the unit to a car circuit rated higher than the unit's fuse rating in such a way that if the unit blows its fuse, no other circuits will be cut off.
- Be sure to insulate any loose unconnected wires with electrical tape for safety.
- When installing a car without ACC (accessory) position on the ignition key switch, connect the red power input lead to the +12 V power terminal which is energized at all times with the yellow lead.

Warning when installing in a car without ACC (accessory) position on the ignition key switch

Be sure to press (OFF) on the unit for two seconds to turn off the clock display after turned off the engine.
When you press (OFF) momentarily, the clock display does not turn off and this causes battery wear.

Frequency select switch (XR-CA340 only)

The AM (FM) tuning interval is factory-set to the 9 K (50 K) position. If the frequency allocation system of your country is based on 10 kHz (200 kHz) interval, set the switch on the bottom of the unit to the 10 K (200 K) position before making connections.

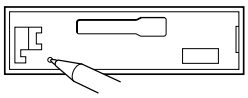


Change the position with a jeweler's screwdriver, etc.

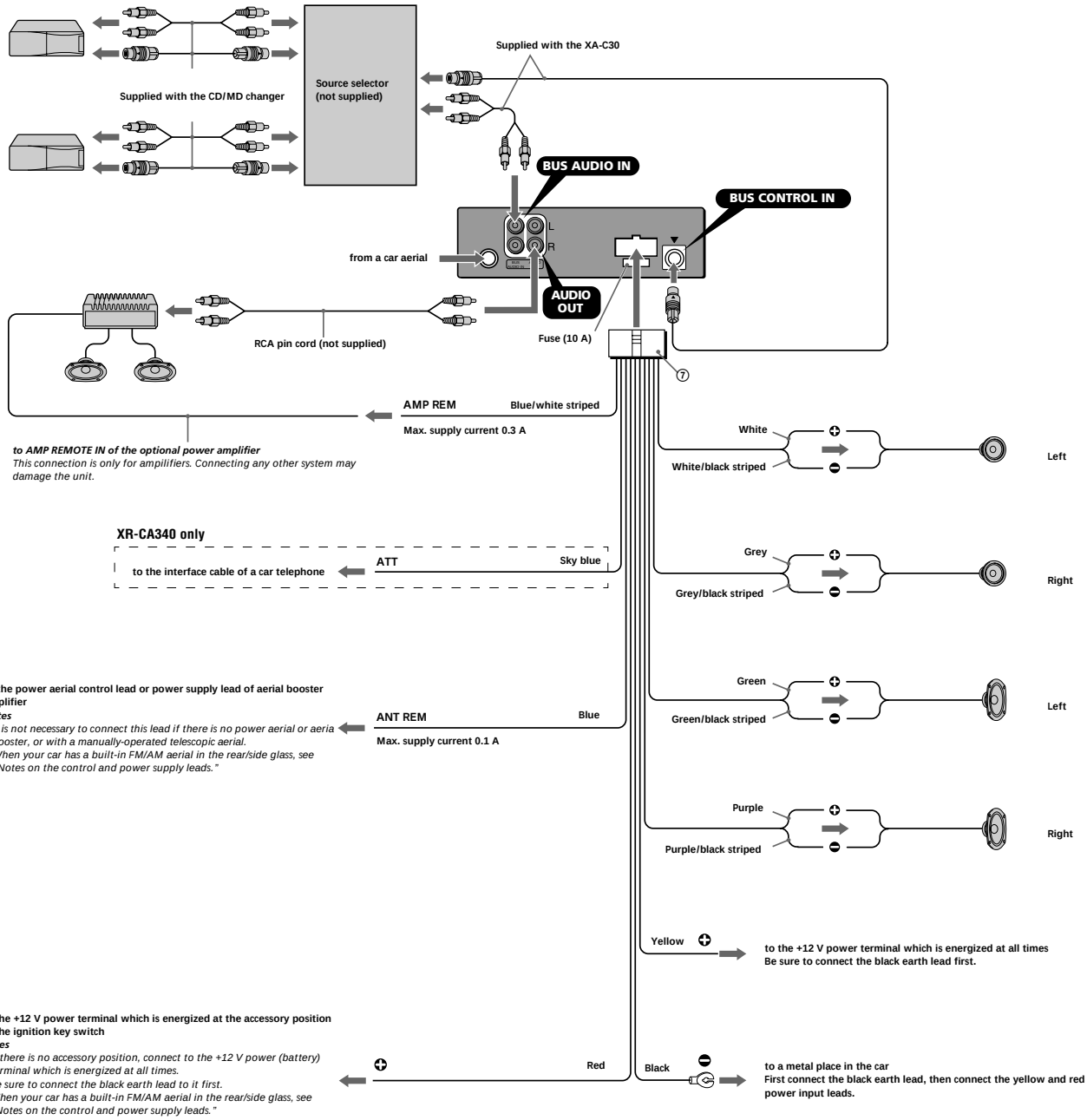
Note
When you change the position of the switch, be sure to press the reset buttons after the connections are completed.

Reset button

When the installation and connections are over, be sure to press the reset button with a ballpoint pen, etc.



Connection diagram


Supplied with the XA-C30
Source selector (not supplied)
Supplied with the CD/MD changer
BUS AUDIO IN
BUS CONTROL IN
from a car aerial
AUDIO OUT
RCA pin cord (not supplied)
Fuse (10 A)
AMP REM
Blue/white striped
Max. supply current 0.3 A
to AMP REMOTE IN of the optional power amplifier
This connection is only for ampilifiers. Connecting any other system may damage the unit.
White
White/black striped
Left
XR-CA340 only
to the interface cable of a car telephone
ATT
Sky blue
Grey
Grey/black striped
Right
to the power aerial control lead or power supply lead of aerial booster amplifier
Notes
• It is not necessary to connect this lead if there is no power aerial or aeria booster, or with a manually-operated telescopic aerial.
• When your car has a built-in FM/AM aerial in the rear/side glass, see "Notes on the control and power supply leads."
ANT REM
Blue
Max. supply current 0.1 A
Green
Green/black striped
Left
Purple
Purple/black striped
Right
Yellow
to the +12 V power terminal which is energized at all times
Be sure to connect the black earth lead first.
to the +12 V power terminal which is energized at the accessory position of the ignition key switch
Notes
• If there is no accessory position, connect to the +12 V power (battery) terminal which is energized at all times.
Be sure to connect the black earth lead to it first.
• When your car has a built-in FM/AM aerial in the rear/side glass, see "Notes on the control and power supply leads."
Red
Black
to a metal place in the car
First connect the black earth lead, then connect the yellow and red power input leads.

Notes on the control and power supply leads

- *The power aerial control lead (blue) supplies +12 V DC when you turn on the unit.*
- *When your car has a built-in FM/AM aerial in the rear/side glass, it is necessary to connect the power aerial control lead (blue) or the accessory power input lead (red) to the power terminal of the existing aerial booster. For details, consult your dealer.*
- *A power aerial without a relay box cannot be used with this unit.*

Memory hold connection

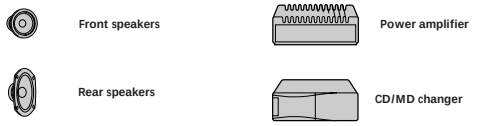
When the yellow power input lead is connected, power will always be supplied to the memory circuit even when the ignition switch is turned off.

Notes on speaker connection

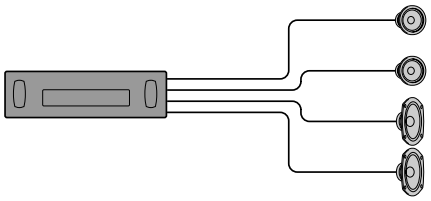
- *Before connecting the speakers, turn the unit off.*
- *Use speakers with an impedance of 4 to 8 ohms, and with adequate power handling capacities. Otherwise, the speakers may be damaged.*
- *Do not connect the terminals of the speaker system to the car chassis, and do not connect the terminals of the right speaker with those of the left speaker.*
- *Do not attempt to connect the speakers in parallel.*
- *Do not connect any active speakers (with built-in amplifiers) to the speaker terminals of the unit. Doing so may damage the active speakers. Be sure to connect passive speakers to these terminals.*

Connection example

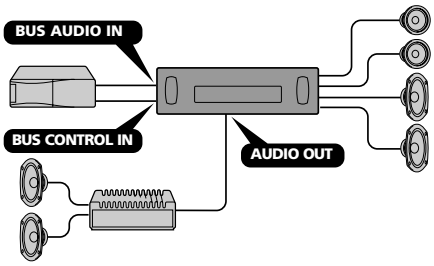
Equipment used in illustrations (not supplied)



A



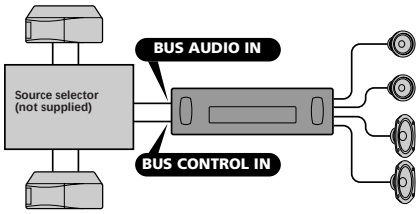
B



Notes

- *Be sure to connect the earth cord before connecting the amplifier.*
- *If you connect an optional power amplifier and do not use the built-in amplifier, the beep sound will be deactivated.*

C



For connecting two or more changers, the source selector XA-C30 (optional) is necessary.

SECTION 2
DISASSEMBLY

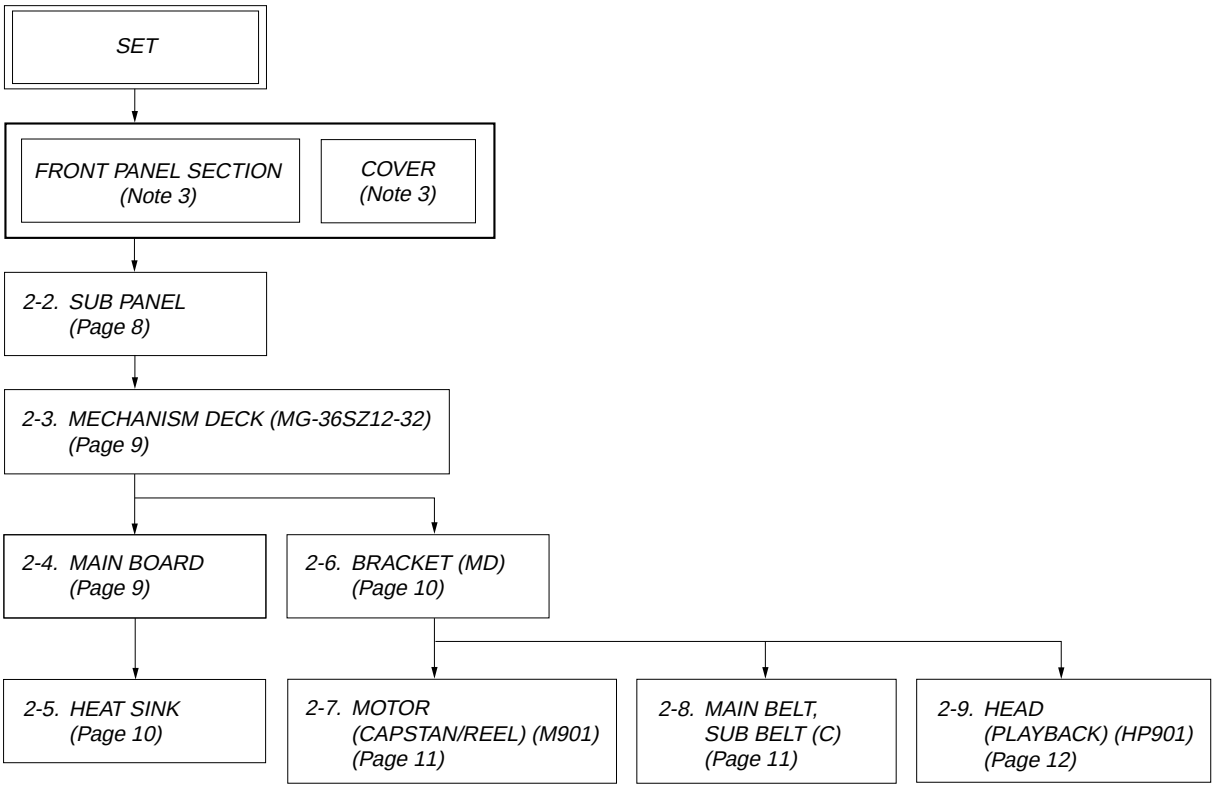
• This set can be disassembled in the order shown below.

2-1. DISASSEMBLY FLOW

Note 1: *The process described in* ▣ *can be performed in any order.*

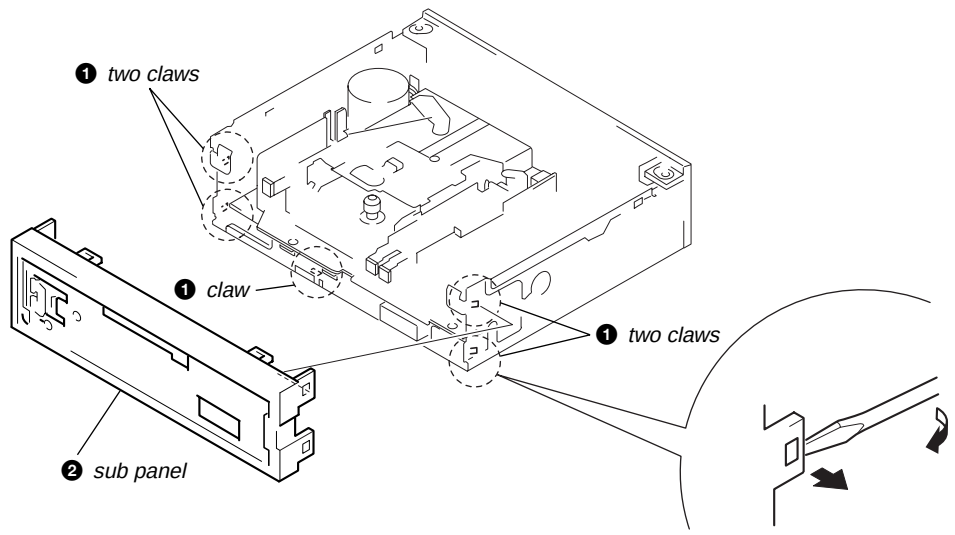
Note 2: *Without completing the process described in* ▣*, the next process can not be performed.*

Note 3: *Illustration of disassembly is omitted.*

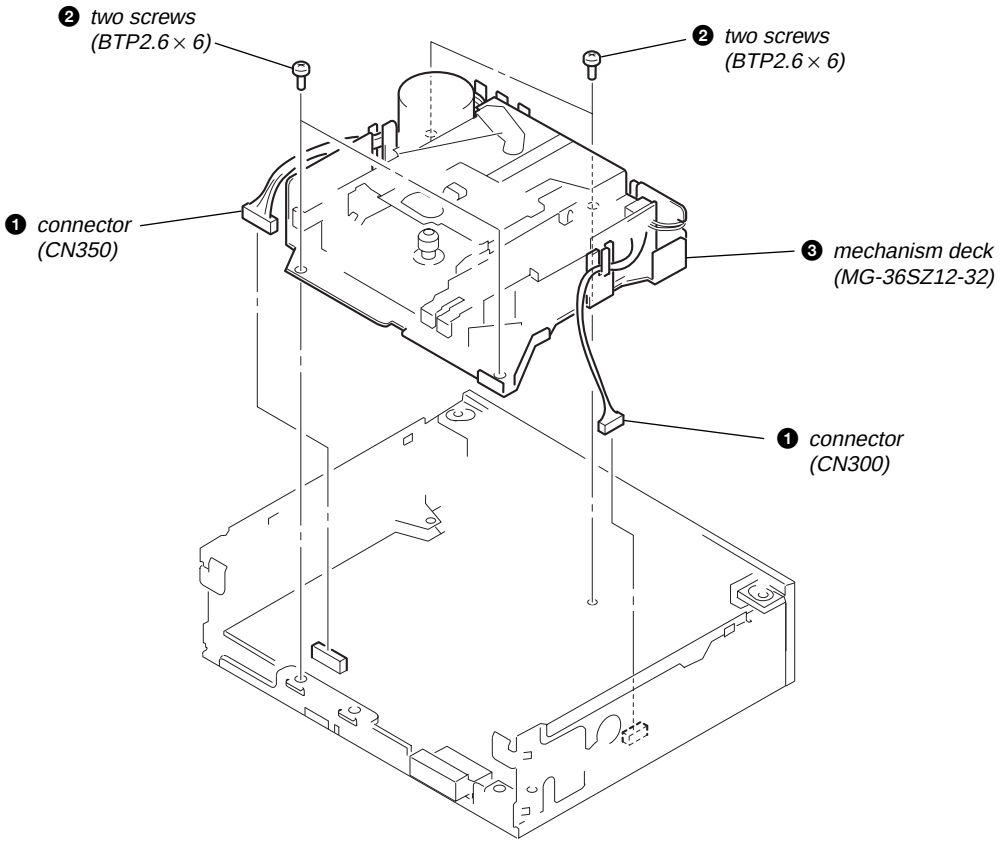

SET
FRONT PANEL SECTION (Note 3)
COVER (Note 3)
2-2. SUB PANEL (Page 8)
2-3. MECHANISM DECK (MG-36SZ12-32) (Page 9)
2-4. MAIN BOARD (Page 9)
2-6. BRACKET (MD) (Page 10)
2-5. HEAT SINK (Page 10)
2-7. MOTOR (CAPSTAN/REEL) (M901) (Page 11)
2-8. MAIN BELT, SUB BELT (C) (Page 11)
2-9. HEAD (PLAYBACK) (HP901) (Page 12)

Note: Follow the disassembly procedure in the numerical order given.

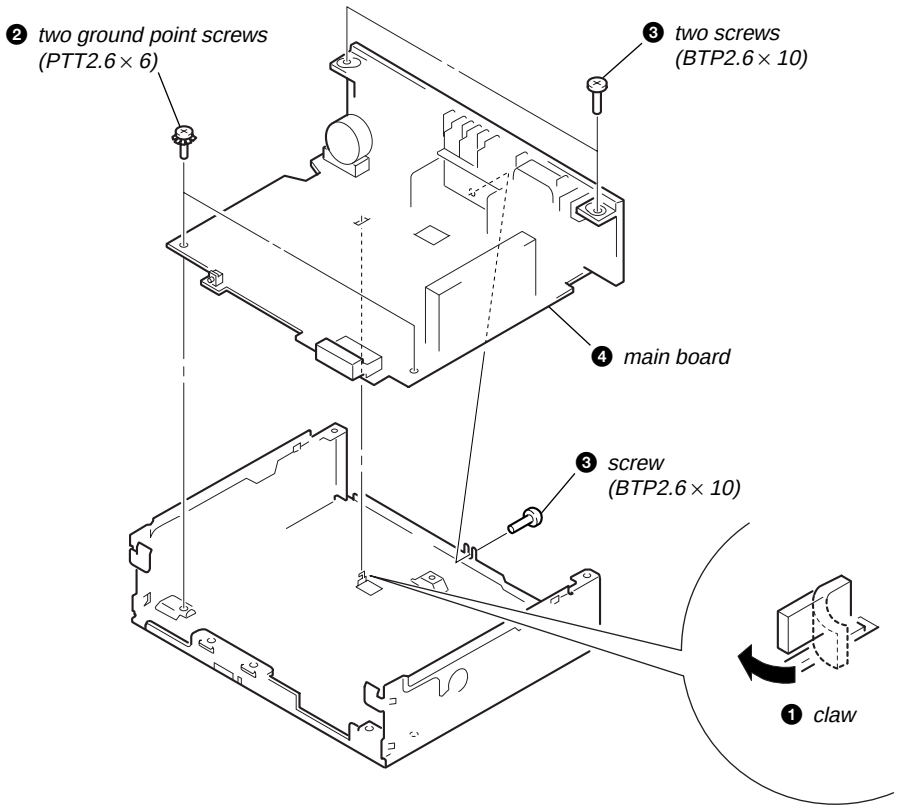
2-2. SUB PANEL



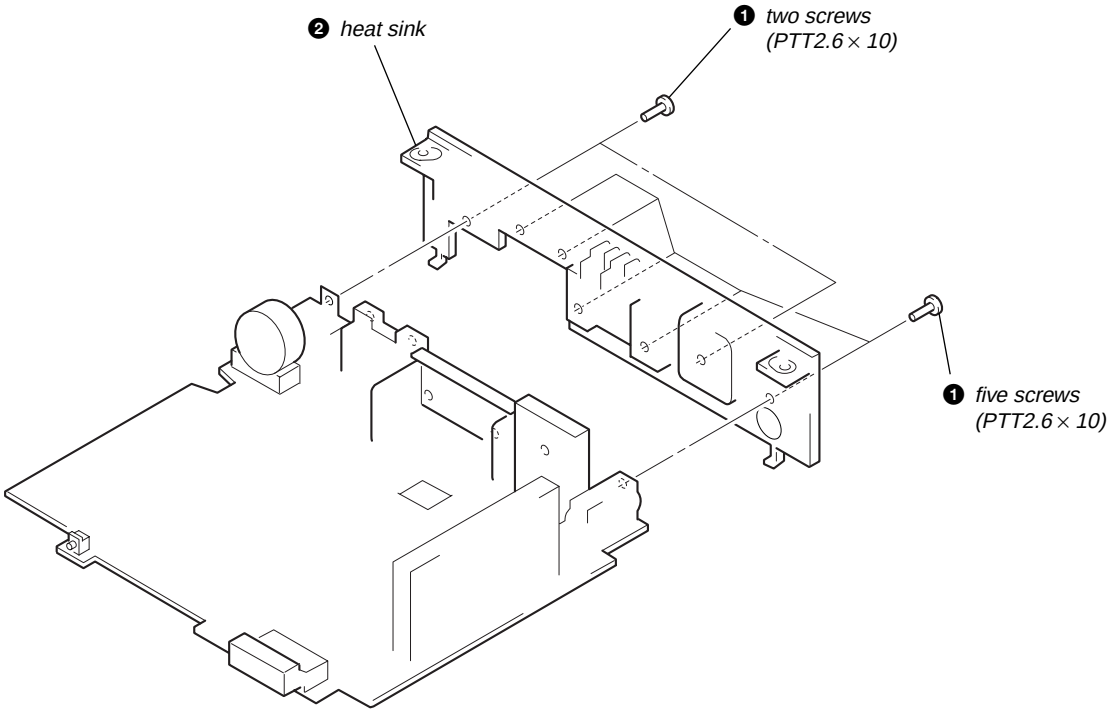
2-3. MECHANISM DECK (MG-36SZ12-32)



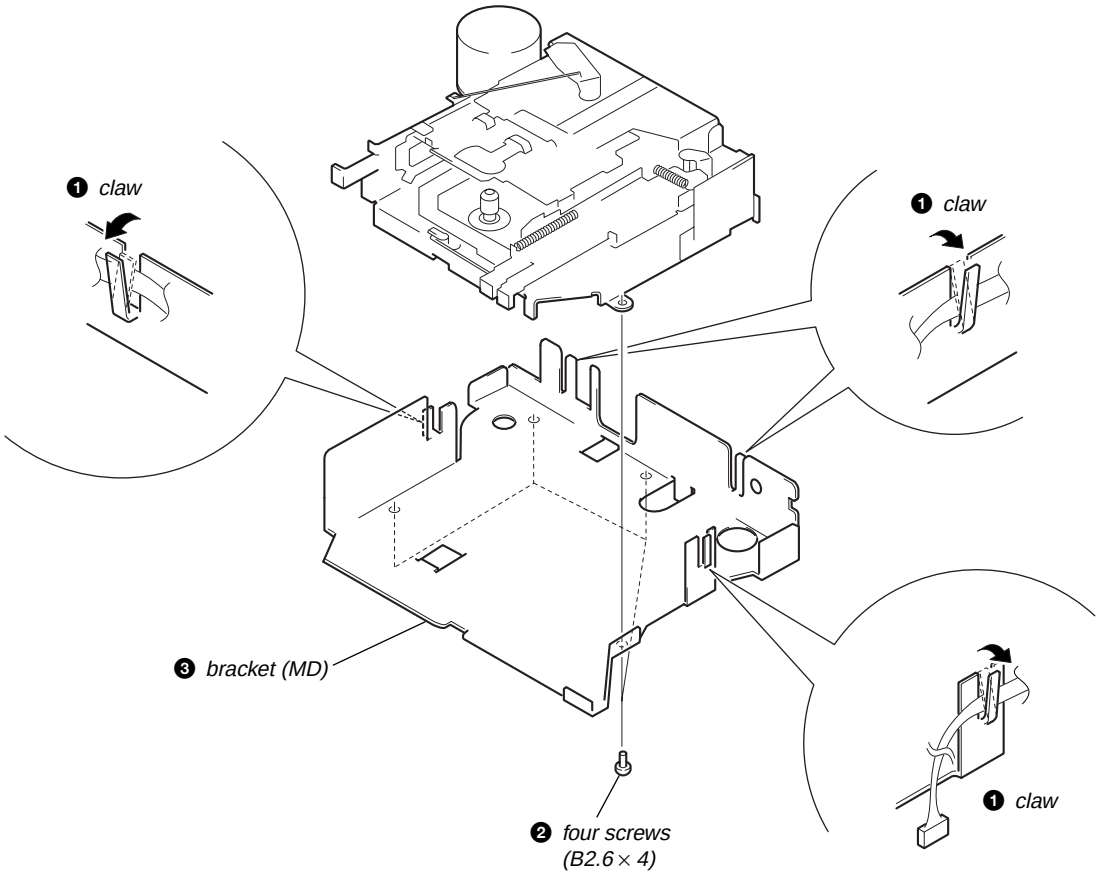
2-4. MAIN BOARD



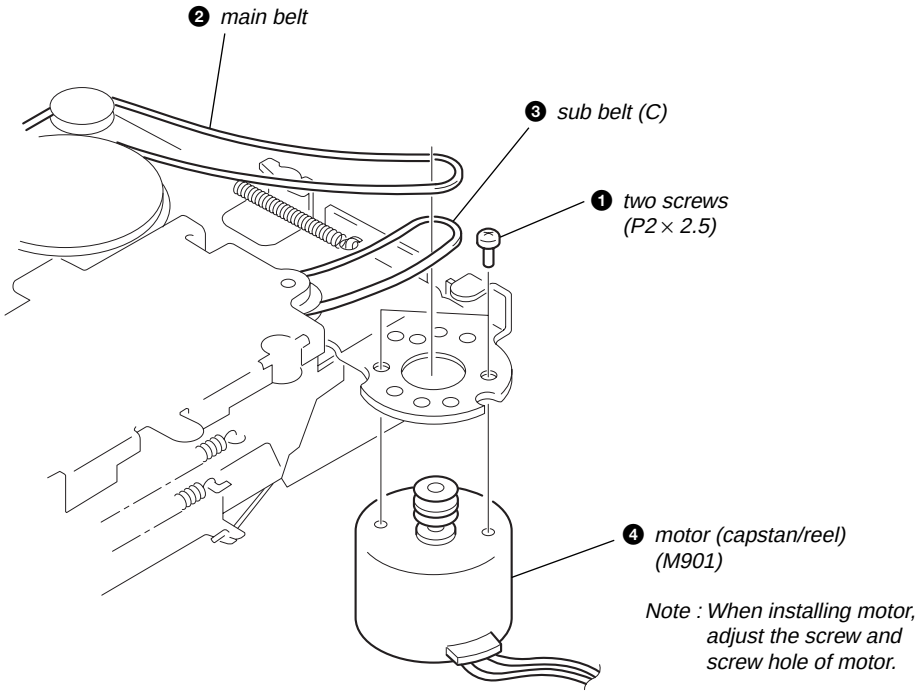
2-5. HEAT SINK



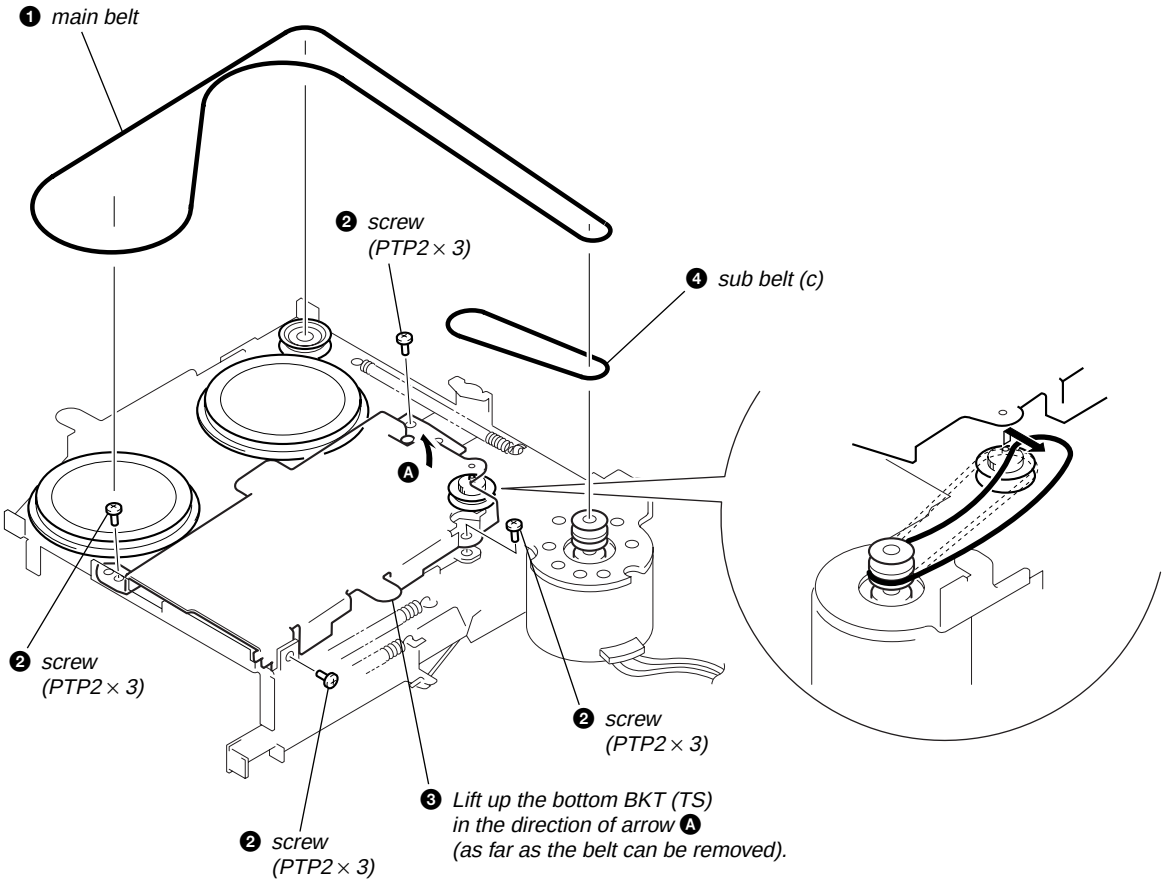
2-6. BRACKET (MD)



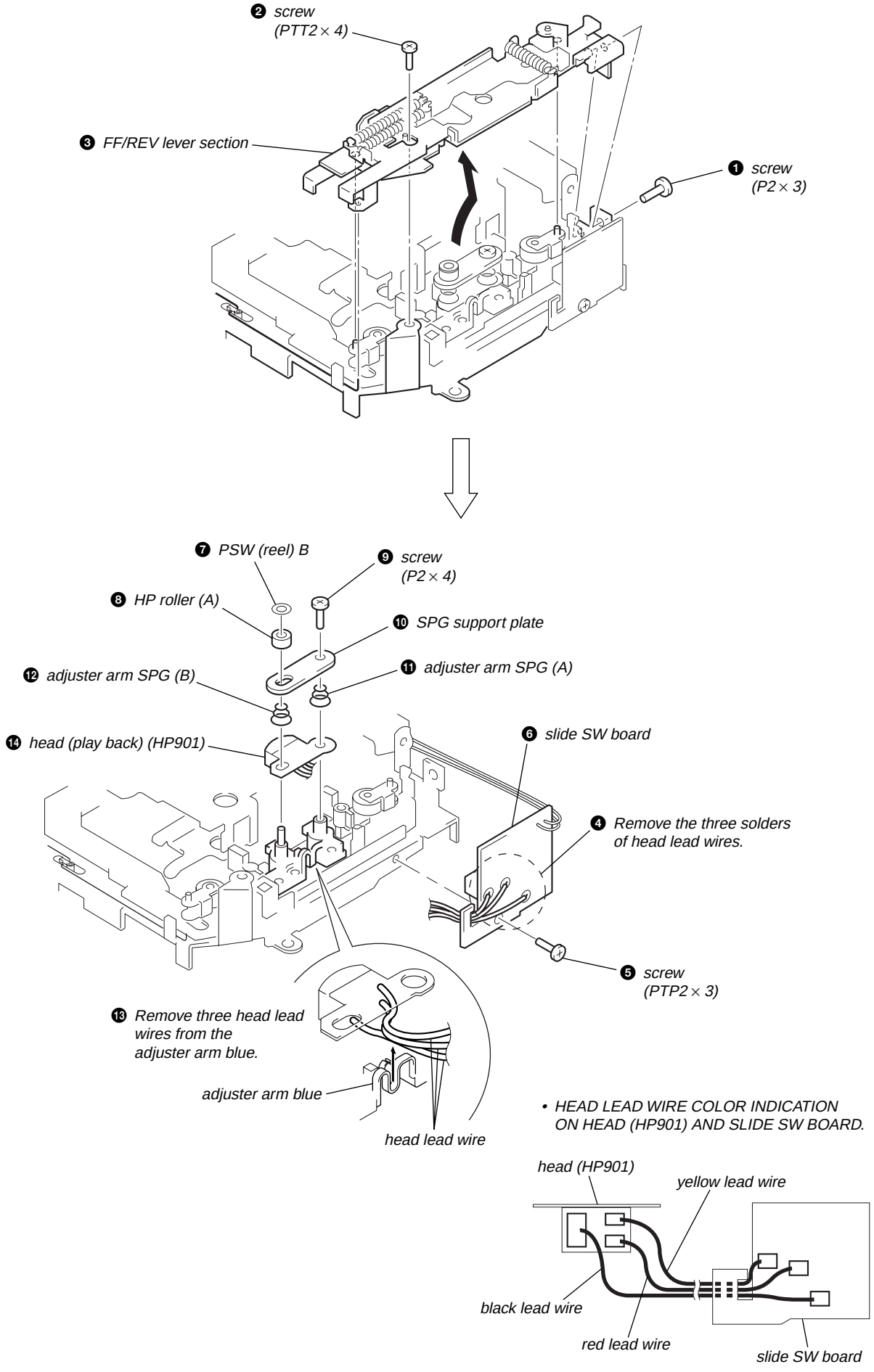
2-7. MOTOR (CAPSTAN/REEL) (M901)



2-8. MAIN BELT, SUB BELT (C)



2-9. HEAD (PLAYBACK) (HP901)


❷ screw (PTT2 × 4)
❸ FF/REV lever section
❶ screw (P2 × 3)
❼ PSW (reel) B
❾ screw (P2 × 4)
❽ HP roller (A)
❿ SPG support plate
⓬ adjuster arm SPG (B)
⓫ adjuster arm SPG (A)
⓮ head (play back) (HP901)
❻ slide SW board
❹ Remove the three solders of head lead wires.
❺ screw (PTP2 × 3)
⓭ Remove three head lead wires from the adjuster arm blue.
adjuster arm blue
head lead wire
• HEAD LEAD WIRE COLOR INDICATION ON HEAD (HP901) AND SLIDE SW BOARD.
head (HP901)
yellow lead wire
black lead wire
red lead wire
slide SW board

SECTION 3
MECHANICAL ADJUSTMENTS

1. Clean the following parts with a denatured-alcohol-moistened swab:
   playback head pinch roller
   rubber belt capstan
   idler
2. Demagnetize the playback head with a head demagnetizer.
3. Do not use a magnetized screwdriver for the adjustments.
4. The adjustments should be performed with the power supply voltage (14.4 V) unless otherwise noted.

Note: With this set, it is not necessary to apply suitable locking compound to the parts after the azimuth adjustment.

• Torque Measurement

Mode	Torque Meter	Meter Reading
Forward	CQ-102C	2.46 – 5.39 mN•m (25 – 55 g•cm) (0.35 – 0.76 oz•inch)
Forward Back Tension	CQ-102C	0.15 – 0.39 mN•m (1.5 – 4 g•cm) (0.02 – 0.06 oz•inch)
Reverse	CQ-102RC	2.46 – 5.39 mN•m (25 – 55 g•cm) (0.35 – 0.76 oz•inch)
Reverse Back Tension	CQ-102RC	0.15– 0.39 mN•m (1.5 – 4 g•cm) (0.02 – 0.06 oz•inch)
FF, REW	CQ-201B	4.91 – 14.70 mN•m (50 – 150 g•cm) (0.69 – 2.08 oz•inch)

• Tape Tension Measurement

Mode	Tension Meter	Meter Reading
Forward	CQ-403A	more than 5.89 mN•m (more than 60 g) (more than 2.12 oz)
Reverse	CQ-403R	

SECTION 4
ELECTRICAL ADJUSTMENTS

TEST MODE

This set have the test mode function. In the test mode, FM Auto Seek/Stop Level and AM Auto Seek/Stop Level adjustments can be performed easier than it in ordinary procedure.

<Set the Test Mode>

1. Turn ON the regulated power supply. (All LEDs on the set lights up, and the clock is displayed.)
   Note: Press the [OFF] button, if the clock is not displayed.
2. Push the [4] button.
3. Push the [5] button.
4. Press the [1] button for more than two seconds.
5. Then the display indicates all lights, the test mode is set.

<Release the Test mode>

1. Push the [OFF] button.

TAPE DECK SECTION

0 dB= 0.775 V

1. The adjustments should be performed in the order given in this service manual.
2. The adjustments should be performed for both L-CH and R-CH.

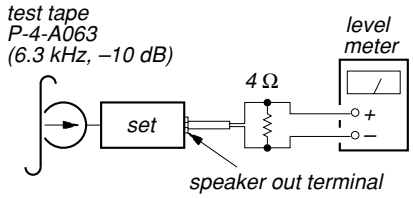
Test Tape

Type	Signal	Used for
P-4-A063	6.3 kHz, –10 dB	head azimuth adjustment
WS-48A	3 kHz, 0 dB	tape speed adjustment

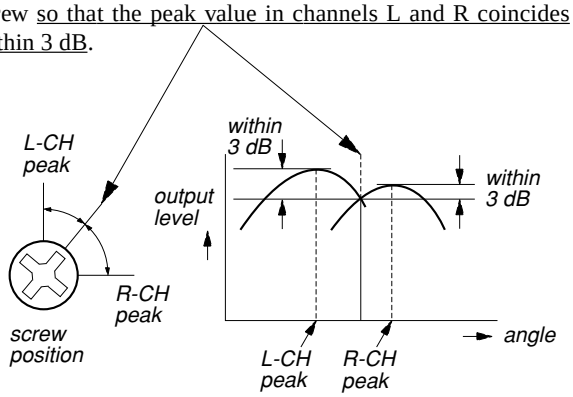
PB Head Azimuth Adjustment

Procedure:

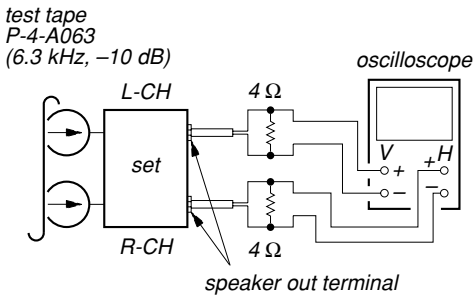
1. Put the set into the FWD PB mode.

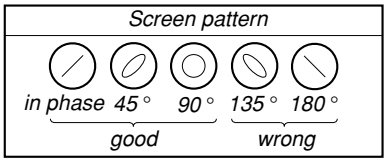


2. Turn the screw and check the output peak value. Adjust the screw so that the peak value in channels L and R coincides within 3 dB.



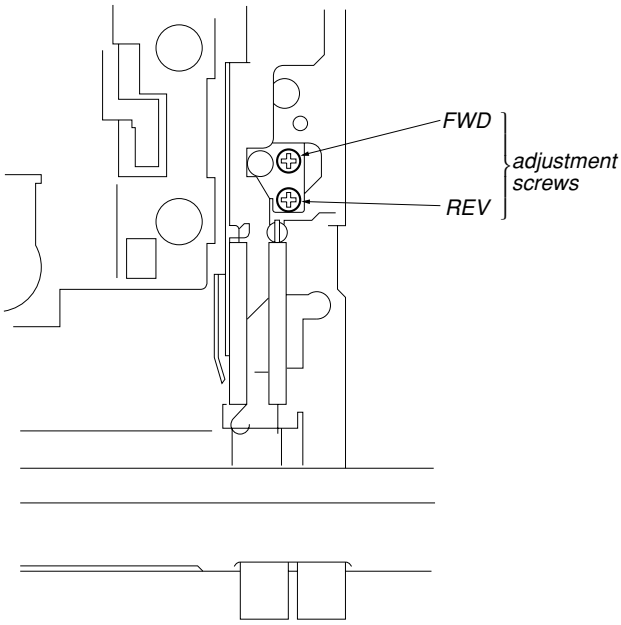
3. Check the phase in the FWD PB mode.





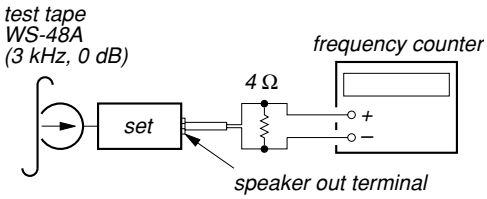
4. Repeat the above adjustment for the REV PB mode.
5. Check that output level difference between FWD PB mode and REV PB mode is within 4 dB.

Adjustment Location: PB head



Tape Speed Adjustment

Setting:



Procedure:

1. Put the set into the FWD PB mode.
2. Adjust adjustment resistor for inside capstan motor so that the reading on the frequency counter becomes in 3,015 Hz.

Specified Value: 2,940 to 3,090 Hz

Adjustment Location: See page 17.

TUNER SECTION

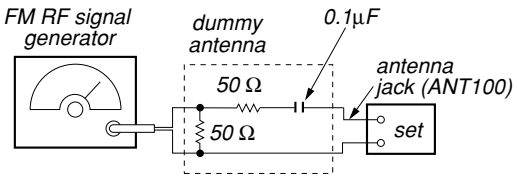
0 dB=1 μV

Cautions during repair
When the tuner unit is defective, replace it by a new one because its internal block is difficult to repair.

Note: Adjust the tuner section in the sequence shown below.
1. FM Auto Seek/Stop Level Adjustment
2. FM Stereo Separation Adjustment
3. AM Auto Seek/Stop Level Adjustment

FM Auto Seek/Stop Level Adjustment

Setting:
SOURCE button: FM
FREQUENCY SELECT switch: FM 50 k (XR-CA340 only)

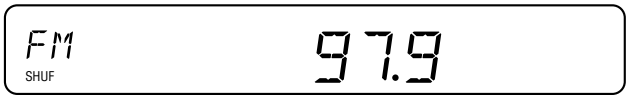


Carrier frequency : 97.9 MHz (XR-CA330)
98.00 MHz (XR-CA340)
Output level : 22 dB (12.6 μV)
Mode : mono
Modulation : 1 kHz, 22.5 kHz deviation (30%)

Procedure:
1. Set to the test mode. (see page 13)
2. Push the SOURCE button and set to FM.

Display

(XR-CA330)

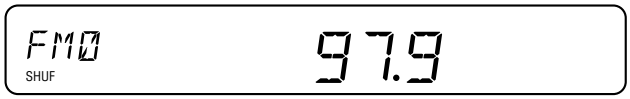


(XR-CA340)

3. Adjust with the volume RV3 on TU100 so that the “FM” indication turns to “FM0” indication on the display window. But, in case of already indicated “FM0”, turn the RV3 so that put out light “0” indication and adjustment.

Display

(XR-CA330)



(XR-CA340)

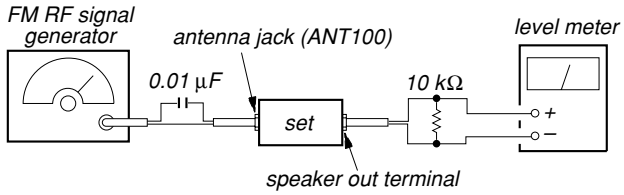
Adjustment Location: See page 17.

FM Stereo Separation Adjustment

Setting:

SOURCE button: FM

FREQUENCY SELECT switch: FM 50 k (XR-CA340 only)



Carrier frequency : 97.9 MHz (XR-CA330)
98.00 MHz (XR-CA340)
Output level : 70 dB (3.2 mV)
Mode : stereo
Modulation : main: 1 kHz, 20 kHz deviation (26.7%)
sub: 1 kHz, 20 kHz deviation (26.7%)
19 kHz pilot: 7.5 kHz deviation (10%)

Procedure:

FM Stereo signal generator output channel	Level meter connection	Level meter reading (dB)
L-CH	L-CH	Ⓐ
R-CH	L-CH	Ⓑ Adjust RV2 on TU100 for minimum reading.
R-CH	R-CH	Ⓒ
L-CH	R-CH	Ⓓ Adjust RV2 on TU100 for minimum reading.

L-CH Stereo separation: Ⓐ-Ⓑ
R-CH Stereo separation: Ⓒ-Ⓓ
The separations of both channels should be equal.

Specified Value: Separation more than 30 dB

Adjustment Location: See page 17.

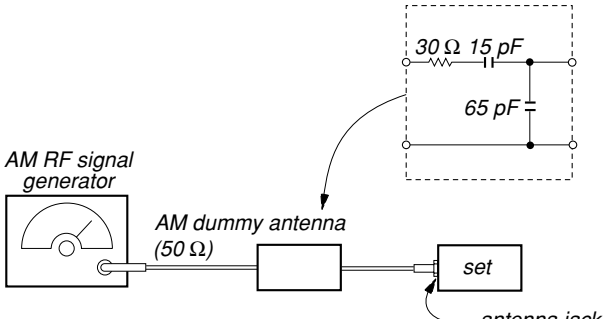
AM Auto Seek/Stop Level Adjustmant

Make this adjustment after “FM Auto Seek/Stop Level Adjustment”.

Setting:

SOURCE button: AM

FREQUENCY SELECT switch: AM 9 k (XR-CA340 only)



Carrier frequency : 1000 kHz (XR-CA330)
999 kHz (XR-CA340)
30% amplitude modulation by 1 kHz signal
Output level : 33 dB (44.7 µV)

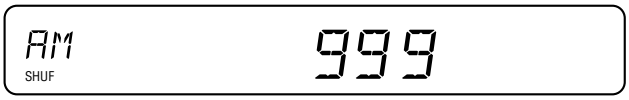
Procedure:

1. Set to the test mode. (see page 13)
2. Push the SOURCE button and set to FM.
3. Push the MODE button and set to AM.

Display

(XR-CA330)

(XR-CA340)

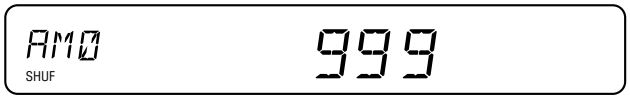


4. Adjust with the volume RV1 on TU100 so that the “AM” indication turns to “AM0” indication on the display window. But, in case of already indicated “AM0”, turn the RV1 so that put out light “0” indication and adjustment.

Display

(XR-CA330)

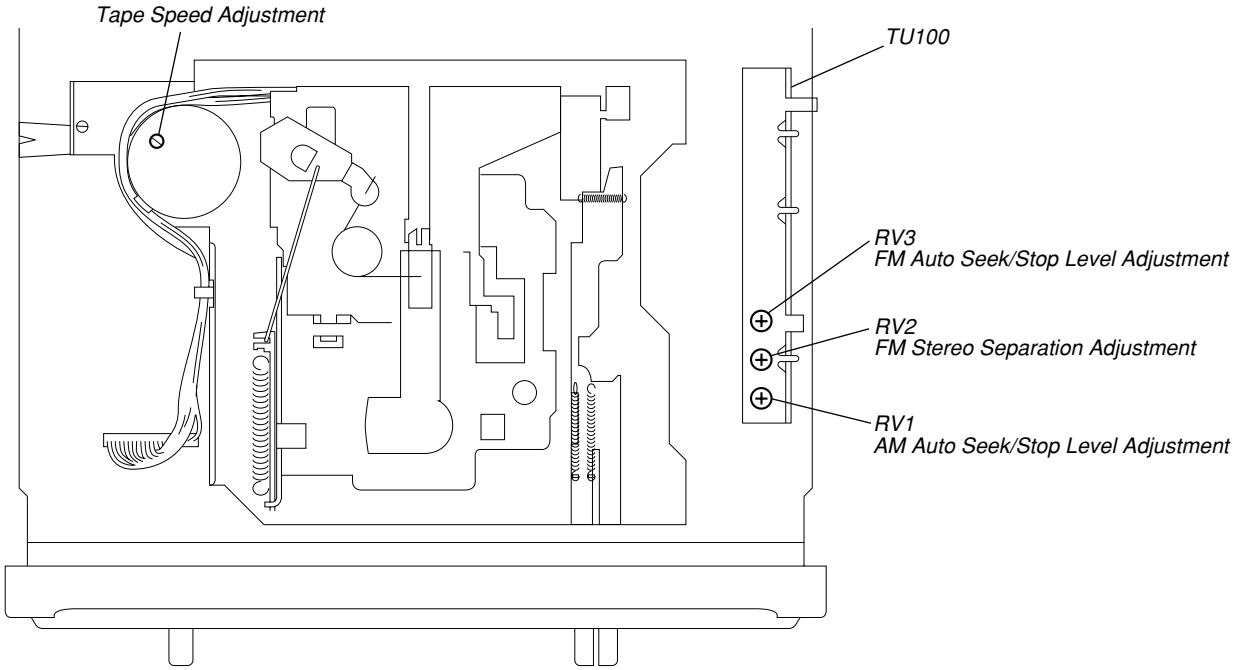
(XR-CA340)



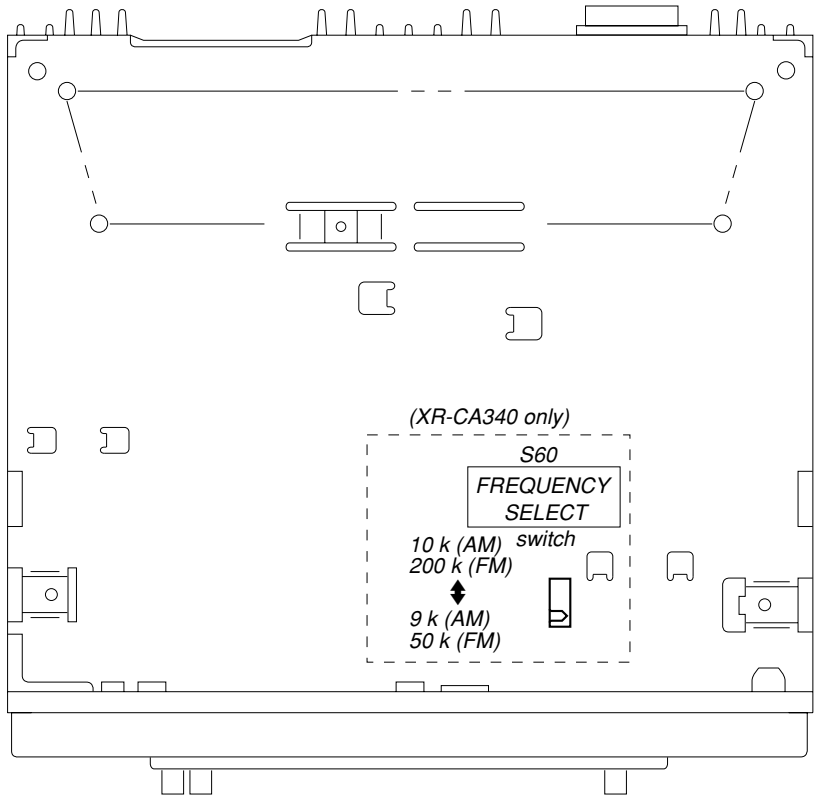
Adjustment Location: See page 17.

Adjustment Location:

– Set Upper View –



– Set Bottom View –



SECTION 5
DIAGRAMS

5-1. NOTE FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

Note on Printed Wiring Board:

- ○——— : parts extracted from the component side.
- ——— : parts extracted from the conductor side.
- ● : Through hole.
- ▬ : Pattern from the side which enables seeing.
- – – – – : Carbon pattern.

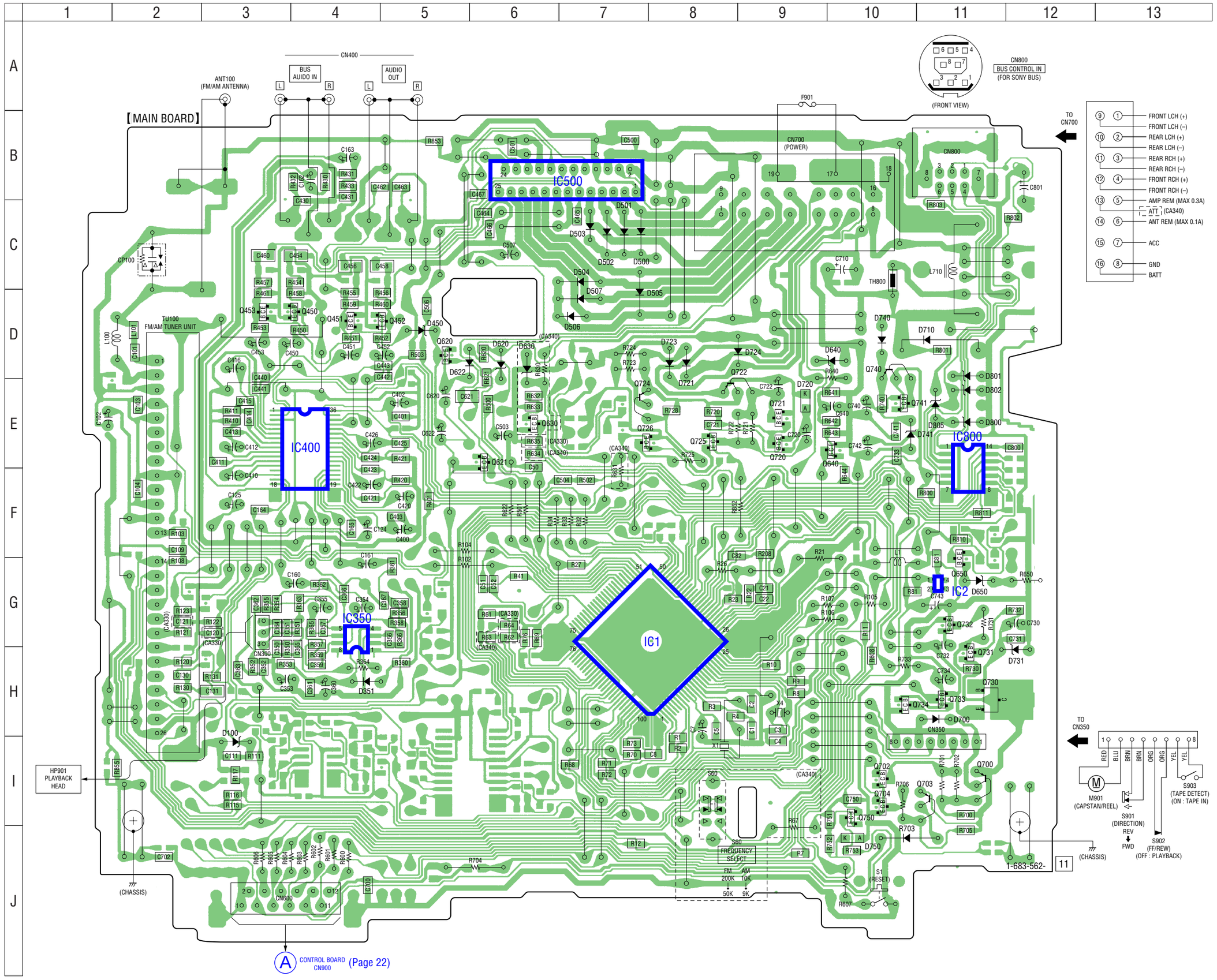
(The other layers' patterns are not indicated.)

Caution:	
Pattern face side: (Conductor Side)	Parts on the pattern face side seen from the pattern face are indicated.
Parts face side: (Component Side)	Parts on the parts face side seen from the parts face are indicated.

Note on Schematic Diagram:

- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- ▭ : panel designation.
- ▬ : B+ Line.
- Power voltage is dc 14.4V and fed with regulated dc power supply from ACC and BATT cords.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark : FM
  ( ) : AM
  ⟨⟨ ⟩⟩ : TAPE PLAYBACK
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨ : FM
  ➡ : AM
  ⇨ : TAPE PLAYBACK
  ⇨ : BUS AUDIO IN

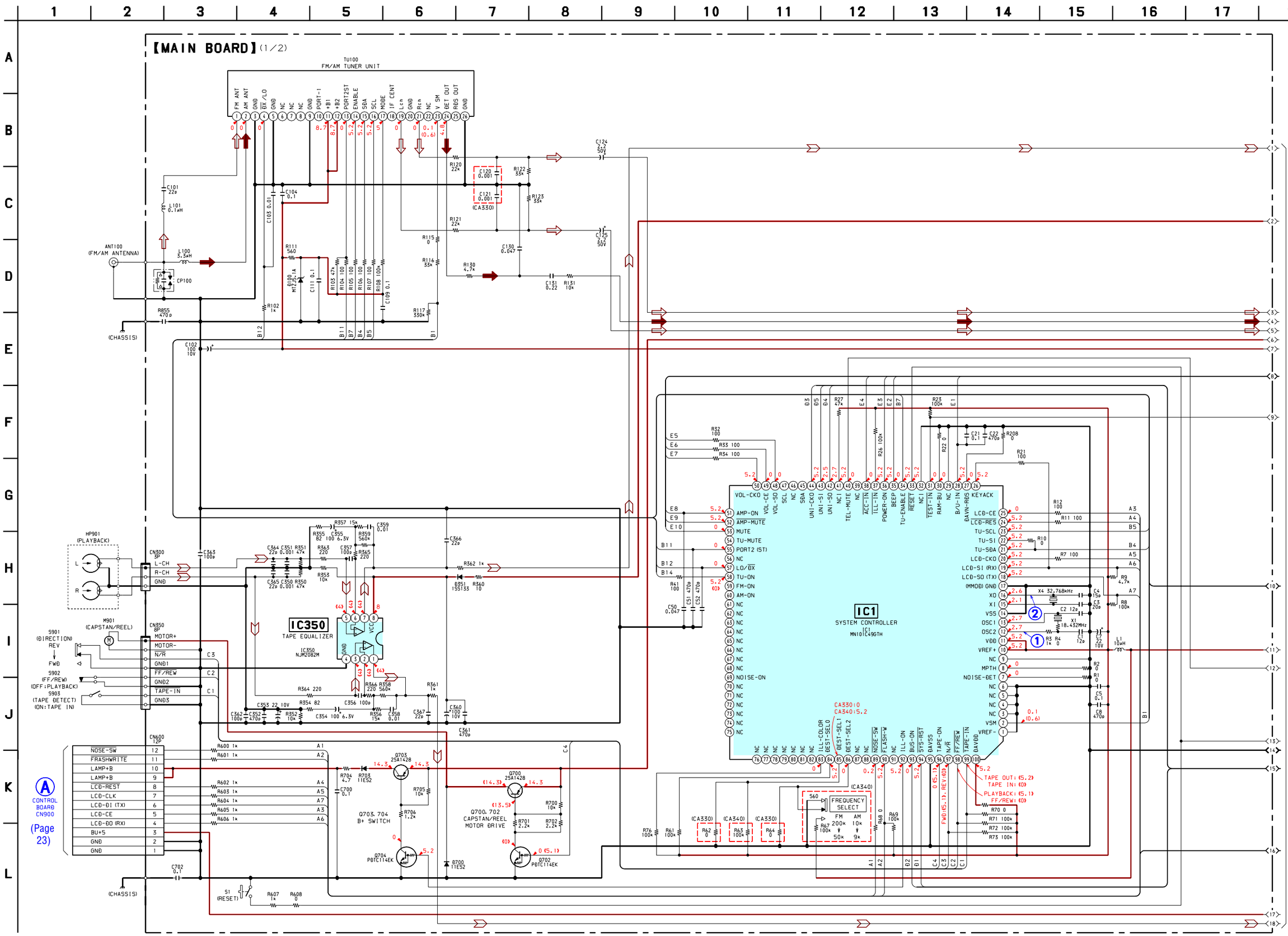
5-2. PRINTED WIRING BOARD – MAIN Board –



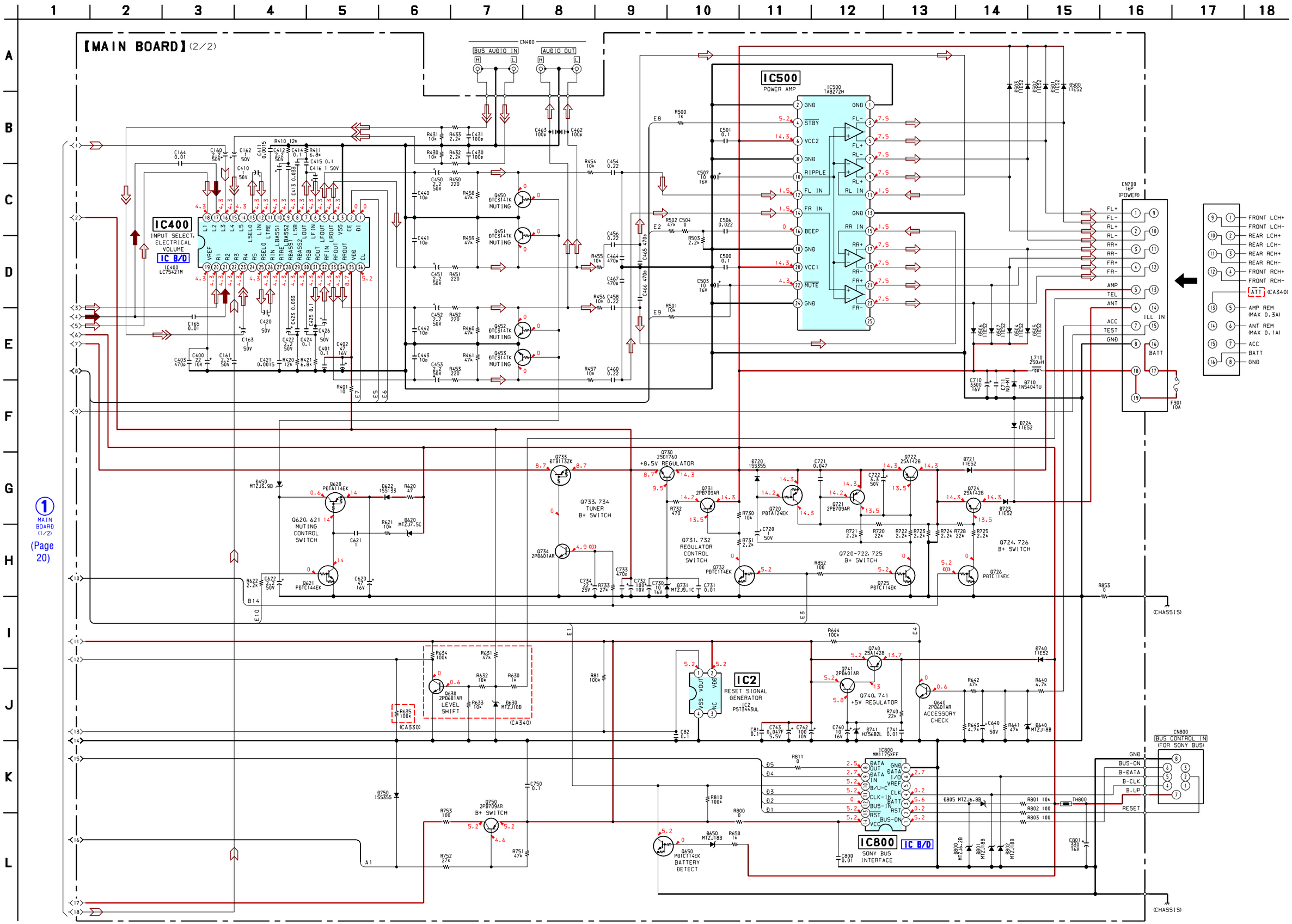
- **Semiconductor Location**

Ref. No.	Location
D100	I-3
D351	H-4
D450	D-5
D500	C-7
D501	C-7
D502	C-7
D503	C-7
D504	C-7
D505	D-7
D506	D-7
D507	D-7
D620	D-6
D622	D-5
D630	D-6
D640	D-10
D650	G-11
D700	H-11
D710	D-11
D720	E-9
D721	D-8
D723	D-8
D724	D-9
D731	H-12
D740	D-10
D741	E-10
D750	J-10
D800	E-11
D801	D-11
D802	E-11
D805	E-11
IC1	G-8
IC2	G-11
IC350	G-4
IC400	E-4
IC500	B-7
IC800	E-11
Q450	D-4
Q451	D-4
Q452	D-5
Q453	D-3
Q620	D-5
Q621	E-6
Q630	E-6
Q640	E-10
Q650	G-11
Q700	I-11
Q702	I-10
Q703	I-11
Q704	I-10
Q720	E-9
Q721	E-9
Q722	E-8
Q724	E-7
Q725	E-8
Q726	E-7
Q730	H-11
Q731	H-11
Q732	G-11
Q733	H-11
Q734	H-10
Q740	D-10
Q741	E-10
Q750	I-10
R703	J-10

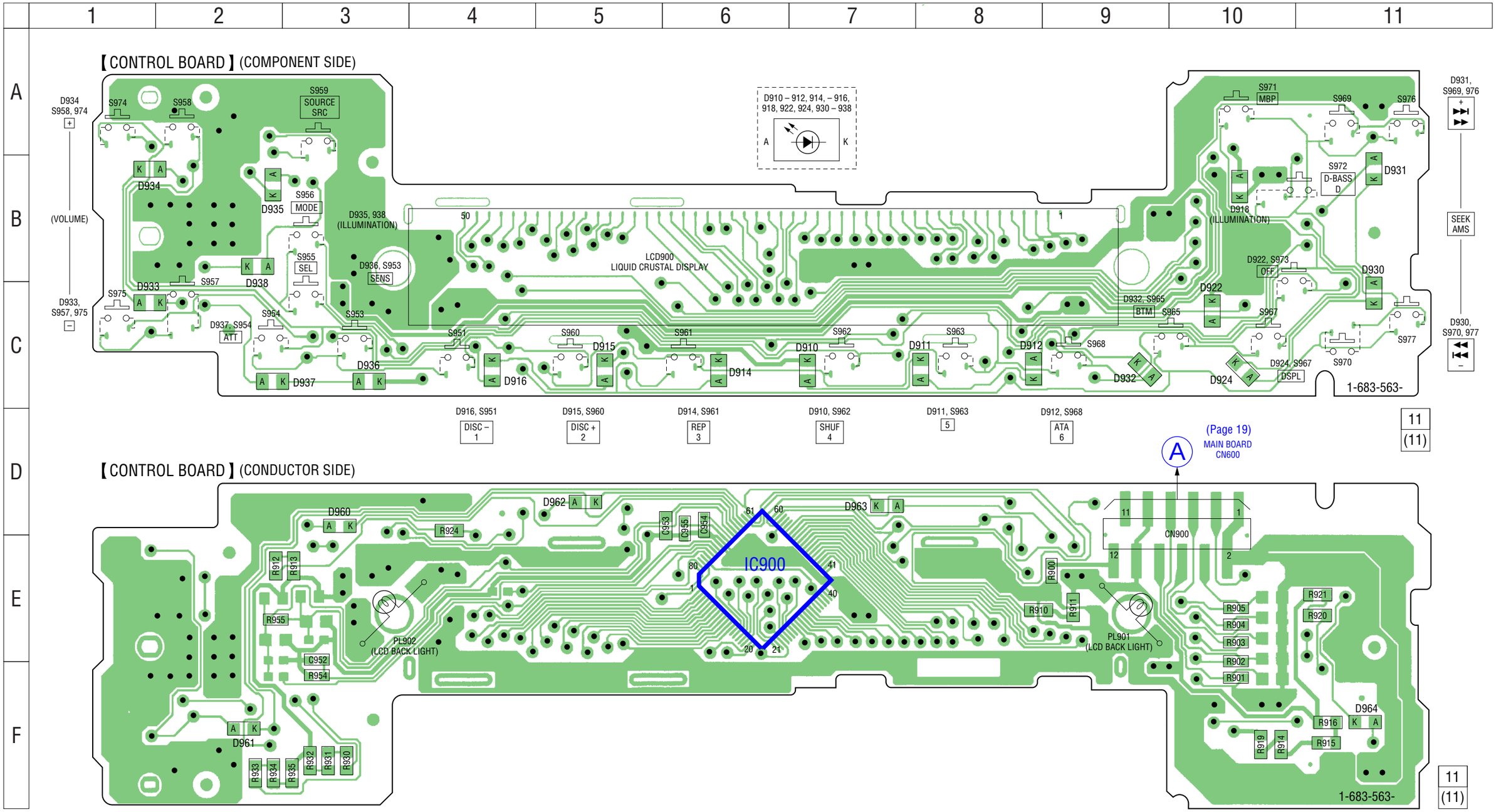
5-3. SCHEMATIC DIAGRAM – MAIN Board (1/2) – • See page 24 for Waveforms.



5-4. SCHEMATIC DIAGRAM – MAIN Board (2/2) – • See page 24 for IC Block Diagrams.



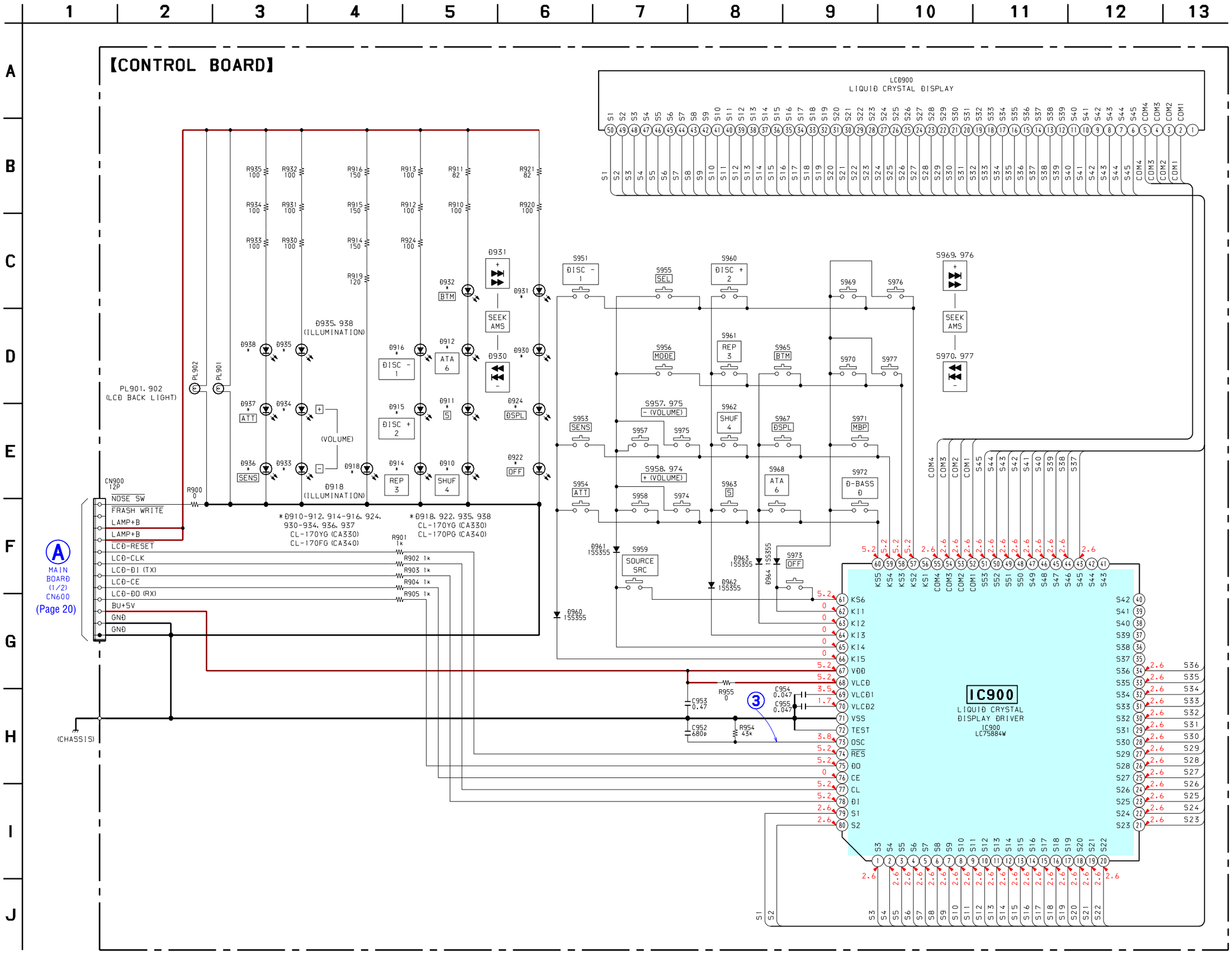
5-5. PRINTED WIRING BOARD – CONTROL Board –



- **Semiconductor Location**

Ref. No.	Location	Ref. No.	Location
D910	C-7	D934	B-1
D911	C-8	D935	B-2
D912	C-8	D936	C-3
D914	C-6	D937	C-2
D915	C-5	D938	B-2
D916	C-4	D960	D-3
D918	B-10	D961	F-2
D922	C-10	D962	D-5
D924	C-10	D963	D-7
D930	C-11	D964	F-11
D931	B-11		
D932	C-9	IC900	E-6
D933	C-1		

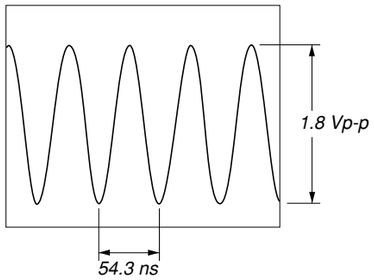
5-6. SCHEMATIC DIAGRAM – CONTROL Board – • See page 24 for Waveform.



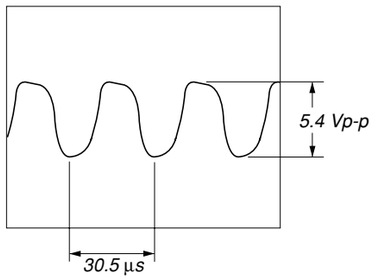
• **Waveforms**

– MAIN Board –

❶ IC1 ⑫ (OSC2)

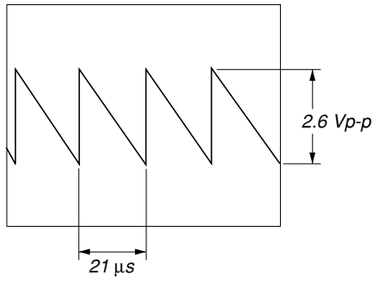


❷ IC1 ⑯ (XO)



– CONTROL Board –

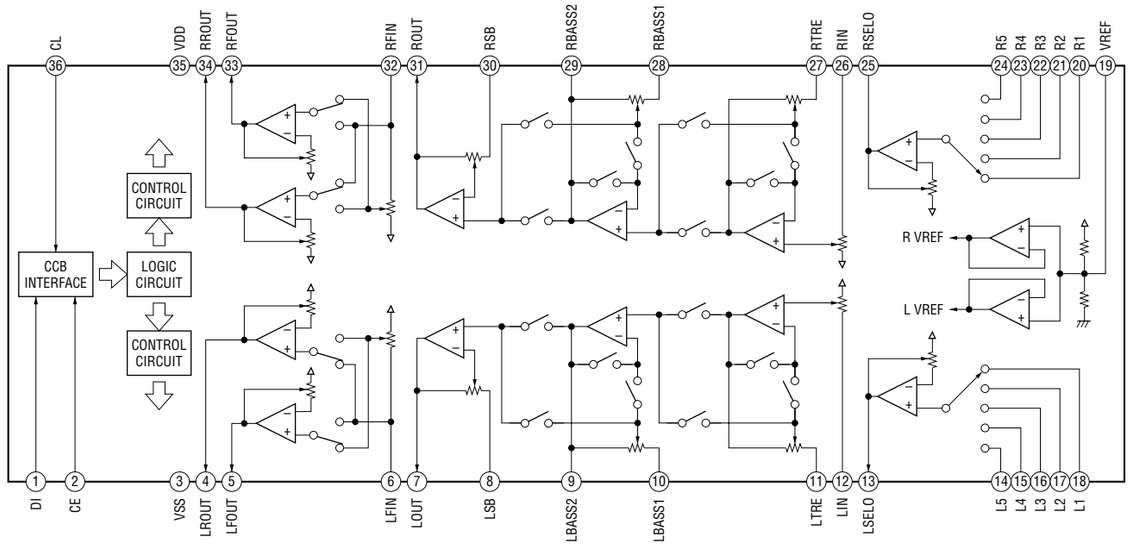
❸ IC900 ⑬ (OSC)



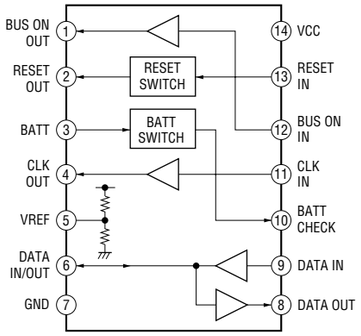
• **IC Block Diagrams**

– MAIN Board –

IC400 LC75421M-TLM



IC800 MM1175XFF



5-7. IC PIN FUNCTION DESCRIPTION

• MAIN BOARD IC1 MN101C49GTH (SYSTEM CONTROLLER)

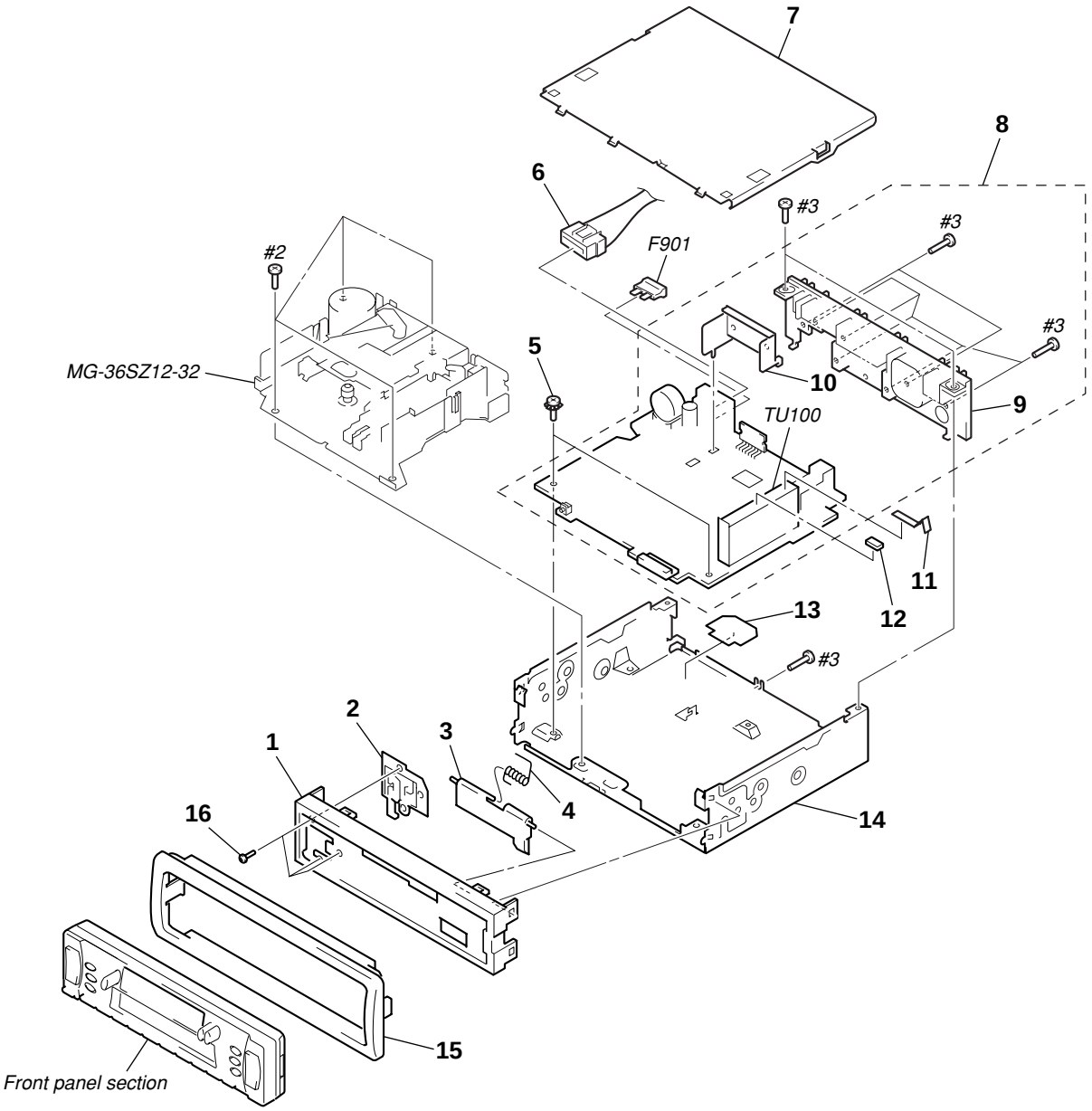
Pin No.	Pin Name	I/O	Description
1	VREF –	—	Reference voltage (0V) terminal (for A/D converter)
2	VSM	I	FM and AM signal meter voltage detection input from the FM/AM tuner unit (A/D input)
3 to 6	NC	—	Not used
7	NOISE-DET	I	Not used
8	MPTH	I	Not used
9	NC	—	Not used
10	VREF +	—	Reference voltage (+5V) terminal (for A/D converter)
11	VDD	—	Power supply terminal (+5V)
12	OSC2	O	Main system clock output terminal (18.432MHz)
13	OSC1	I	Main system clock input terminal (18.432MHz)
14	VSS	—	Ground terminal
15	XI	I	Sub system clock input terminal (32.768kHz)
16	XO	O	Sub system clock output terminal (32.768kHz)
17	GND (MMOD)	—	Setting terminal for the single chip mode “L”: single chip
18	LCD-SO (TX)	O	LCD serial data output to the liquid crystal display driver
19	LCD-SI (RX)	I	LCD serial data input from the liquid crystal display driver
20	LCD-CKO	O	LCD serial transfer clock signal output to the liquid crystal display driver
21	TU-SDA	O	Serial data output to the FM/AM tuner unit
22	TU-SI	I	Serial data input from the FM/AM tuner unit
23	TU-SCL	O	Serial data transfer clock signal output to the FM/AM tuner unit
24	$\overline{\text{LCD-RES}}$	O	LCD reset signal output to the liquid crystal display driver “L”: reset
25	LCD-CE	O	Chip enable signal output to the liquid crystal display driver “H” active
26	KEYACK	I	Key acknowledge signal detect input from the liquid crystal display driver
27	DAVN-RDS	I	Not used
28	B/U-IN	I	Battery detect signal input from the bus interface and battery detect circuit “L” is input at low voltage
29	NC	—	Not used
30	RAM BU	I	Internal RAM reset detection signal input terminal Input terminal to check that RAM data are not destroyed due to low voltage This checking is made within 100 msec after reset “L”: RAM reset
31	$\overline{\text{TEST-IN}}$	I	Setting terminal for the test mode “L”: test mode Normally: fixed at “H”
32	NCI	I	Not used
33	$\overline{\text{RESET}}$	I	System reset signal input from the reset signal generator or reset switch “L”: reset “L” is input for several 100 msec after power on, then it changes to “H”
34	TU-ENABLE	O	Chip enable signal output to the FM/AM tuner unit “H” active
35	BEEP	O	Beep sound drive signal output to the power amp
36	POWER-ON	O	Main system power supply on/off control signal output terminal “H”: power on
37	$\overline{\text{ILL-IN}}$	I	Not used
38	$\overline{\text{ACC-IN}}$	I	Accessory detect signal input terminal “L”: accessory on
39	NC	—	Not used
40	TEL-MUTE	I	Telephone muting signal input terminal At input of “H”, the signal is attenuated by –20 dB Used for the XR-CA340 only
41	NCI	I	Not used
42	UNI-SO	O	Serial data output to the bus interface
43	UNI-SI	I	Serial data input from the bus interface
44	UNI-CKO	O	Serial data transfer clock signal output to the bus interface

Pin No.	Pin Name	I/O	Description
45	SDA	I/O	Not used
46	NC	—	Not used
47	SCL	O	Not used
48	VOL-SO	O	Serial data output to the electrical volume
49	VOL-CE	O	Chip enable signal output to the electrical volume "H" active
50	VOL-CKO	O	Serial data transfer clock signal output to the electrical volume
51	AMP-ON	O	Standby on/off control signal output to the power amp "L": standby mode, "H": amp on
52	$\overline{\text{AMP-MUTE}}$	O	Muting on/off control signal output to the power amp "L": muting on
53	MUTE	O	Audio line muting on/off control signal output terminal "H": muting on
54	TU-MUTE	O	Not used
55	PORT2 (ST)	I	FM stereo broadcasting detection signal input from the FM/AM tuner unit "H": stereo display lighting
56	NC	—	Not used
57	LO/$\overline{\text{DX}}$	O	Local/DX control signal output to the FM/AM tuner unit "L": DX
58	TU-ON	O	Tuner system power supply on/off control signal output terminal "H": tuner power on
59	FM-ON	O	FM system power supply on/off control signal output terminal "L": AM power on, "H": FM power on Not used
60	AM-ON	O	AM system power supply on/off control signal output terminal "L": FM power on, "H": AM power on Not used
61 to 68	NC	—	Not used
69	NOISE-ON	O	Not used
70 to 82	NC	—	Not used
83	ILL-COLOR	I	Illumination color select input terminal "L": amber illumination "H": green illumination (fixed at "H")
84	DEST-SEL0	I	Destination setting terminal (fixed at "H")
85	DEST-SEL1	I	Destination setting terminal XR-CA330: fixed at "L", XR-CA340: fixed at "H"
86	DEST-SEL2	I	Destination setting terminal XR-CA330: fixed at "L", XR-CA340: input for the FREQUENCY SELECT switch
87, 88	NC	—	Not used
89	$\overline{\text{NOSE-SW}}$	I	Front panel block remove/attach detection signal input terminal "L": front panel is attached
90	$\overline{\text{FLASH-W}}$	I	Internal flash memory data write mode detection signal input terminal "L": data write mode Normally: fixed at "H"
91	NC	—	Not used
92	ILL-ON	O	Power on/off control signal output of the illumination LED and LCD back light "H": power on
93	BUS-ON	O	Bus on/off control signal output to the bus interface "L": bus on
94	$\overline{\text{SYS-RST}}$	O	Reset signal output to the bus interface "L": reset
95	DAVSS	—	Ground terminal (for D/A converter)
96	TAPE-ON	O	Capstan/reel motor drive signal output terminal "H": motor on
97	N/$\overline{\text{R}}$	I	Tape direction switch input terminal "L": reverse direction "H": forward direction
98	$\overline{\text{FF/REW}}$	I	FF/REW detection switch input terminal "L": FF/REW mode
99	$\overline{\text{TAPE-IN}}$	I	Tape in detection switch input terminal "L": tape in
100	DAVDD	—	Power supply terminal (+5V) (for D/A converter)

SECTION 6
EXPLODED VIEWS

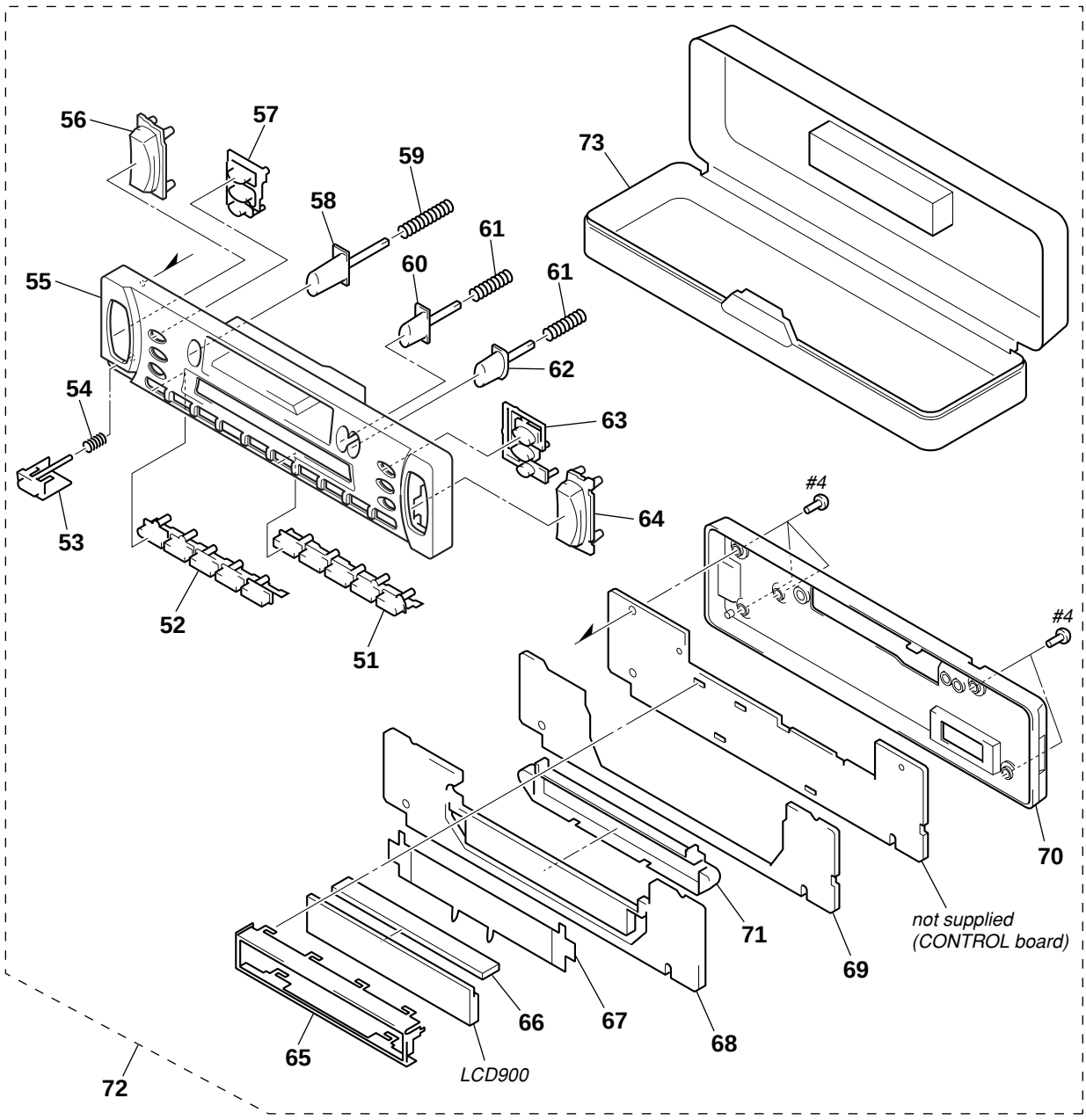
NOTE:
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts
  Example:
  KNOB, BALANCE (WHITE) . . . (RED)
  ↑ ↑
  Parts Color Cabinet's Color
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and Accessories are given in the last of the electrical parts list.

6-1. GENERAL SECTION



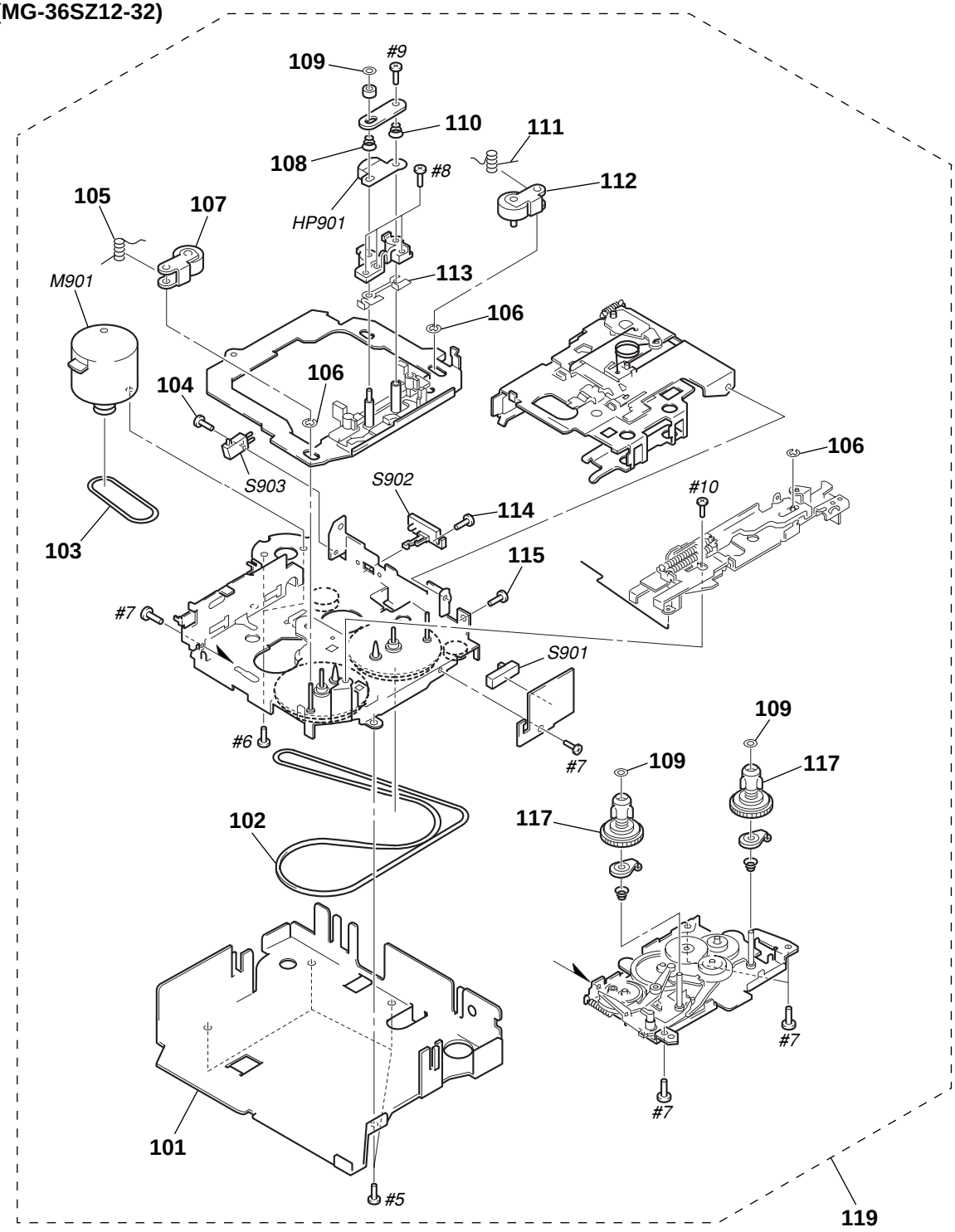
Ref. No.	Part No.	Description	Remark
1	3-224-905-01	PANEL, SUB	
2	X-3370-437-3	LOCK ASSY	
3	3-041-581-11	DOOR, CASSETTE	
4	3-044-125-01	SPRING, TORSION	
5	3-376-464-11	SCREW (+PTT 2.6X6), GROUND POINT	
6	1-776-207-31	CORD (WITH CONNECTOR) (POWER) (CA330)	
6	1-783-736-61	CORD (WITH CONNECTOR) (POWER) (CA340)	
* 7	X-3378-167-1	COVER ASSY, TOP	
* 8	A-3340-273-A	MAIN BOARD, COMPLETE (CA330)	
* 8	A-3340-275-A	MAIN BOARD, COMPLETE (CA340)	
* 9	3-224-921-01	HEAT SINK	
* 10	3-041-578-01	BRACKET (IC)	
11	3-937-650-01	PLATE (C), GROUND	
12	3-046-339-01	CUSHION (U)	
* 13	3-041-576-01	SHEET, INSULATING	
* 14	3-047-715-01	CHASSIS	
15	3-041-599-01	COLLAR (CA340)	
15	3-041-599-11	COLLAR (CA330)	
16	3-042-244-01	SCREW (T)	
F901	1-532-877-11	FUSE (BLADE TYPE) (AUTO FUSE) (10A)	
TU100	1-693-524-11	FM/AM TUNER UNIT (FAE370-A01)	

6-2. FRONT PANEL SECTION



Ref. No.	Part No.	Description	Remark
51	3-224-928-01	BUTTON (4-6) (4. 5. 6. BTM. DSPL)	
52	3-224-912-01	BUTTON (1-3) (ATT. SENS. 1. 2. 3)	
53	3-224-913-01	BUTTON (RELEASE) (CA330)	
53	3-224-913-11	BUTTON (RELEASE) (CA340)	
54	3-220-522-01	SPRING (RELEASE)	
55	3-224-911-31	PANEL, FRONT (CA330)	
55	3-224-911-41	PANEL, FRONT (CA340)	
56	3-224-930-01	BUTTON (+/-) (CA330)	
56	3-224-930-21	BUTTON (+/-) (CA340)	
57	3-224-908-01	BUTTON (SOURCE) (SRC. MODE. SEL)	
58	3-224-917-11	BUTTON (EJECT) (⏏) (CA340)	
58	3-224-917-21	BUTTON (EJECT) (⏏) (CA330)	
59	3-029-327-01	SPRING (EJECT)	
60	3-224-916-11	BUTTON (REW) (◀◀) (CA340)	
60	3-224-916-21	BUTTON (REW) (◀◀) (CA330)	
61	3-375-372-01	SPRING (F/R)	
62	3-224-915-11	BUTTON (FF) (▶▶) (CA340)	
62	3-224-915-21	BUTTON (FF) (▶▶) (CA330)	
63	3-224-907-01	BUTTON (D-BASS) (MBP. D. OFF)	
64	3-224-929-01	BUTTON (SEEK) (+ ▶▶I ▶▶ SEEK AMS ◀◀ I◀◀ -) (CA330)	
64	3-224-929-11	BUTTON (SEEK) (+ ▶▶I ▶▶ SEEK AMS ◀◀ I◀◀ -) (CA340)	
* 65	3-224-927-01	PLATE (LCD), GROUND	
66	1-694-696-31	CONDUCTIVE BOARD, CONNECTION	
* 67	3-224-926-01	ILLUMINATOR	
* 68	3-236-778-01	PLATE, LIGHT GUIDE	
69	1-786-305-11	SWITCH, SHEET	
70	3-224-904-01	PANEL, FRONT BACK	
* 71	3-224-924-01	HOLDER (LCD)	
* 72	A-3315-468-A	PANEL ASSY, FRONT (CA330)	
* 72	A-3315-469-A	PANEL ASSY, FRONT (CA340)	
73	X-3378-490-2	CASE (PANEL) ASSY	
LCD900	1-804-512-11	DISPLAY PANEL, LIQUID CRYSTAL	

6-3. MECHANISM DECK SECTION (MG-36SZ12-32)



Ref. No.	Part No.	Description	Remark
* 101	3-224-920-01	BRACKET (MD)	
102	3-045-943-01	MAIN BELT	
103	3-045-945-01	SUB BELT (C)	
104	3-045-953-01	+MACHINE SCREW M1.7X6	
105	3-045-940-01	PINCH ARM SPG (R)	
106	3-045-950-01	E-RING (DIA. 2)	
107	3-045-890-01	PINCH ARM (R)	
108	3-045-933-01	ADJUSTER ARM SPG (B)	
109	3-045-949-01	PSW (REEL) B	
110	3-045-932-01	ADJUSTER ARM SPG (A)	
111	3-045-939-01	PINCH ARM SPG (F)	
112	3-045-891-01	PINCH ARM (F)	
113	3-045-906-01	ADJUSTER SHIM (X)	
114	3-045-952-01	+MACHINE SCREW M1.7X4	
115	3-713-786-51	SCREW +P 2X3	
117	3-045-893-01	REEL SPINDLE	
119	A-3220-844-A	MECHANISM DECK ASSY (MG-36SZ12-32)	
HP901	1-500-661-11	HEAD (PLAYBACK)	
M901	1-763-507-11	MOTOR (CAPSTAN/REEL)	
S901	1-771-928-11	SWITCH (SLIDE) (DIRECTION)	
S902	1-771-926-11	SWITCH (LEAF) (FF/REW)	
S903	1-771-927-11	SWITCH (LEAF) (TAPE DETECT)	

SECTION 7
ELECTRICAL PARTS LIST

CONTROL

NOTE:
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL: Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F: nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u: µ, for example:
  uA. . : µA. . uPA. . : µPA. .
  uPB. . : µPB. . uPC. . : µPC. .
  uPD. . : µPD. .
- CAPACITORS
  uF: µF
- COILS
  uH: µH

When indicating parts by reference number, please include the board.

Ref. No.	Part No.	Description	Remark
		CONTROL BOARD	
		**********	
	1-694-696-31	CONDUCTIVE BOARD, CONNECTION	
	1-786-305-11	SWITCH, SHEET	
*	3-224-924-01	HOLDER (LCD)	
*	3-224-926-01	ILLUMINATOR	
*	3-224-927-01	PLATE (LCD), GROUND	
	3-236-778-01	PLATE, LIGHT GUIDE	
		< CAPACITOR >	
C952	1-115-412-11	CERAMIC CHIP 680PF 5% 25V	
C953	1-125-891-11	CERAMIC CHIP 0.47uF 10% 10V	
C954	1-165-176-11	CERAMIC CHIP 0.047uF 10% 16V	
C955	1-165-176-11	CERAMIC CHIP 0.047uF 10% 16V	
		< CONNECTOR >	
CN900	1-794-312-11	PIN, CONNECTOR 12P	
		< DIODE >	
D910	8-719-053-31	LED CL-170YG-CD-T (4, SHUF) (CA330)	
D910	8-719-082-98	LED CL-170FG-CD-T (4, SHUF) (CA340)	
D911	8-719-053-31	LED CL-170YG-CD-T (5) (CA330)	
D911	8-719-082-98	LED CL-170FG-CD-T (5) (CA340)	
D912	8-719-053-31	LED CL-170YG-CD-T (6, ATA) (CA330)	
D912	8-719-082-98	LED CL-170FG-CD-T (6, ATA) (CA340)	
D914	8-719-053-31	LED CL-170YG-CD-T (3, REP) (CA330)	
D914	8-719-082-98	LED CL-170FG-CD-T (3, REP) (CA340)	
D915	8-719-053-31	LED CL-170YG-CD-T (2, DISC +) (CA330)	
D915	8-719-082-98	LED CL-170FG-CD-T (2, DISC +) (CA340)	
D916	8-719-053-31	LED CL-170YG-CD-T (1, DISC -) (CA330)	
D916	8-719-082-98	LED CL-170FG-CD-T (1, DISC -) (CA340)	
D918	8-719-033-14	LED CL-170PG-CD-T (ILLUMINATION)	(CA340)
D918	8-719-053-31	LED CL-170YG-CD-T (ILLUMINATION)	(CA330)
D922	8-719-033-14	LED CL-170PG-CD-T (OFF) (CA340)	
D922	8-719-053-31	LED CL-170YG-CD-T (OFF) (CA330)	
D924	8-719-053-31	LED CL-170YG-CD-T (DSPL) (CA330)	
D924	8-719-082-98	LED CL-170FG-CD-T (DSPL) (CA340)	
D930	8-719-053-31	LED CL-170YG-CD-T (+ ▶▶I ▶▶, SEEK AMS) (CA330)	
D930	8-719-082-98	LED CL-170FG-CD-T (+ ▶▶I ▶▶, SEEK AMS) (CA340)	
D931	8-719-053-31	LED CL-170YG-CD-T (- I◀◀ ◀◀, SEEK AMS) (CA330)	
D931	8-719-082-98	LED CL-170FG-CD-T (- I◀◀ ◀◀, SEEK AMS) (CA340)	
D932	8-719-053-31	LED CL-170YG-CD-T (BTM) (CA330)	
D932	8-719-082-98	LED CL-170FG-CD-T (BTM) (CA340)	
D933	8-719-053-31	LED CL-170YG-CD-T (- (VOLUME)) (CA330)	
D933	8-719-082-98	LED CL-170FG-CD-T (- (VOLUME)) (CA340)	
D934	8-719-053-31	LED CL-170YG-CD-T (+ (VOLUME)) (CA330)	
D934	8-719-082-98	LED CL-170FG-CD-T (+ (VOLUME)) (CA340)	
D935	8-719-033-14	LED CL-170PG-CD-T (ILLUMINATION)	(CA340)
D935	8-719-053-31	LED CL-170YG-CD-T (ILLUMINATION)	(CA330)
D936	8-719-053-31	LED CL-170YG-CD-T (SENS) (CA330)	
D936	8-719-082-98	LED CL-170FG-CD-T (SENS) (CA340)	
D937	8-719-053-31	LED CL-170YG-CD-T (ATT) (CA330)	
D937	8-719-082-98	LED CL-170FG-CD-T (ATT) (CA340)	
D938	8-719-033-14	LED CL-170PG-CD-T (ILLUMINATION)	(CA340)
D938	8-719-053-31	LED CL-170YG-CD-T (ILLUMINATION)	(CA330)
D960	8-719-988-61	DIODE 1SS355TE-17	
D961	8-719-988-61	DIODE 1SS355TE-17	
D962	8-719-988-61	DIODE 1SS355TE-17	
D963	8-719-988-61	DIODE 1SS355TE-17	
D964	8-719-988-61	DIODE 1SS355TE-17	
		< IC >	
IC900	8-759-657-06	IC LC75884W	
		< LIQUID CRYSTAL DISPLAY >	
LCD900	1-804-512-11	DISPLAY PANEL, LIQUID CRYSTAL	
		< PILOT LAMP >	
PL901	1-518-740-11	LAMP, PILOT (LCD BACK LIGHT) (CA340)	
PL901	1-518-740-31	LAMP, PILOT (LCD BACK LIGHT) (CA330)	
PL902	1-518-740-11	LAMP, PILOT (LCD BACK LIGHT) (CA340)	
PL902	1-518-740-31	LAMP, PILOT (LCD BACK LIGHT) (CA330)	
		< RESISTOR >	
R900	1-216-295-11	SHORT 0	
R901	1-216-049-11	RES-CHIP 1K 5% 1/10W	
R902	1-216-049-11	RES-CHIP 1K 5% 1/10W	

CONTROL **MAIN**

Ref. No.	Part No.	Description			Remark
R903	1-216-049-11	RES-CHIP	1K	5%	1/10W
R904	1-216-049-11	RES-CHIP	1K	5%	1/10W
R905	1-216-049-11	RES-CHIP	1K	5%	1/10W
R910	1-216-174-00	RES-CHIP	100	5%	1/8W
R911	1-216-172-00	METAL CHIP	82	5%	1/8W
R912	1-216-174-00	RES-CHIP	100	5%	1/8W
R913	1-216-174-00	RES-CHIP	100	5%	1/8W
R914	1-216-178-00	RES-CHIP	150	5%	1/8W
R915	1-216-178-00	RES-CHIP	150	5%	1/8W
R916	1-216-178-00	RES-CHIP	150	5%	1/8W
R919	1-216-176-11	RES-CHIP	120	5%	1/8W
R920	1-216-174-00	RES-CHIP	100	5%	1/8W
R921	1-216-172-00	METAL CHIP	82	5%	1/8W
R924	1-216-174-00	RES-CHIP	100	5%	1/8W
R930	1-216-174-00	RES-CHIP	100	5%	1/8W
R931	1-216-174-00	RES-CHIP	100	5%	1/8W
R932	1-216-174-00	RES-CHIP	100	5%	1/8W
R933	1-216-174-00	RES-CHIP	100	5%	1/8W
R934	1-216-174-00	RES-CHIP	100	5%	1/8W
R935	1-216-174-00	RES-CHIP	100	5%	1/8W
R954	1-216-088-00	METAL CHIP	43K	5%	1/10W
R955	1-216-295-11	SHORT	0		
**********					
	A-3340-273-A	MAIN BOARD, COMPLETE (CA330)			
	A-3340-275-A	MAIN BOARD, COMPLETE (CA340)			
		**********			
*	3-041-578-01	BRACKET (IC)			
*	3-224-921-01	HEAT SINK			
	7-685-794-09	SCREW +PTT 2.6X10 (S)			
		< JACK >			
ANT100	1-815-185-12	JACK (ANT) (FM/AM ANTENNA)			
		< CAPACITOR/RESISTOR >			
C1	1-162-916-11	CERAMIC CHIP	12PF	5%	50V
C2	1-162-916-11	CERAMIC CHIP	12PF	5%	50V
C3	1-164-160-11	CERAMIC CHIP	20PF	5%	50V
C4	1-162-917-11	CERAMIC CHIP	15PF	5%	50V
C5	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C7	1-124-234-00	ELECT	22uF	20%	16V
C8	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C21	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C22	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C50	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C51	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C52	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C81	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C82	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C101	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C102	1-104-665-11	ELECT	100uF	20%	10V
C103	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C104	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C109	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C111	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C120	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V (CA330)
C121	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V

Ref. No.	Part No.	Description			Remark
					(CA330)
C124	1-124-257-00	ELECT	2.2uF	20%	50V
C125	1-124-257-00	ELECT	2.2uF	20%	50V
C130	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C131	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C160	1-124-257-00	ELECT	2.2uF	20%	50V
C161	1-124-257-00	ELECT	2.2uF	20%	50V
C162	1-126-160-11	ELECT	1uF	20%	50V
C163	1-126-160-11	ELECT	1uF	20%	50V
C164	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C165	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C350	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C351	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C352	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C353	1-124-234-00	ELECT	22uF	20%	16V
C354	1-124-584-00	ELECT	100uF	20%	10V
C355	1-124-584-00	ELECT	100uF	20%	10V
C356	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C357	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C358	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C359	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C360	1-124-584-00	ELECT	100uF	20%	10V
C361	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C362	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C363	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C364	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C365	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C366	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C367	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C400	1-124-234-00	ELECT	22uF	20%	16V
C401	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C402	1-124-589-11	ELECT	47uF	20%	16V
C403	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C410	1-104-942-11	ELECT	1uF	20%	50V
C411	1-162-965-11	CERAMIC CHIP	0.0015uF	10%	50V
C412	1-124-257-00	ELECT	2.2uF	20%	50V
C413	1-164-677-11	CERAMIC CHIP	0.033uF	10%	16V
C414	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C415	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C416	1-104-942-11	ELECT	1uF	20%	50V
C420	1-104-942-11	ELECT	1uF	20%	50V
C421	1-162-965-11	CERAMIC CHIP	0.0015uF	10%	50V
C422	1-124-257-00	ELECT	2.2uF	20%	50V
C423	1-164-677-11	CERAMIC CHIP	0.033uF	10%	16V
C424	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C425	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C426	1-104-942-11	ELECT	1uF	20%	50V
C430	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C431	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C440	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C441	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C442	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C443	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C450	1-124-257-00	ELECT	2.2uF	20%	50V
C451	1-124-257-00	ELECT	2.2uF	20%	50V
C452	1-124-257-00	ELECT	2.2uF	20%	50V
C453	1-124-257-00	ELECT	2.2uF	20%	50V
C454	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V

MAIN

Ref. No.	Part No.	Description			Remark
C456	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C458	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C460	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C462	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C463	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C464	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C465	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C466	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C467	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C500	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C501	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C503	1-126-157-11	ELECT	10uF	20%	16V
C504	1-216-295-11	SHORT	0		
C506	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C507	1-126-791-11	ELECT	10uF	20%	16V
C620	1-124-589-11	ELECT	47uF	20%	16V
C621	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C622	1-124-257-00	ELECT	2.2uF	20%	50V
C640	1-104-942-11	ELECT	1uF	20%	50V
C700	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C702	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C710	1-126-936-11	ELECT	3300uF	20%	16V
C720	1-104-942-11	ELECT	1uF	20%	50V
C721	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C722	1-126-162-11	ELECT	3.3uF	20%	50V
C730	1-126-791-11	ELECT	10uF	20%	16V
C731	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C732	1-104-665-11	ELECT	100uF	20%	10V
C733	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C734	1-128-551-11	ELECT	22uF	20%	25V
C740	1-126-157-11	ELECT	10uF	20%	16V
C741	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C742	1-124-584-00	ELECT	100uF	20%	10V
C743	1-125-701-11	DOUBLE LAYER	0.047F		5.5V
C750	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C800	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C801	1-126-940-11	ELECT	330uF	20%	16V
		< CONNECTOR >			
* CN300	1-564-705-11	PIN, CONNECTOR (PC BOARD) 3P			
* CN350	1-573-486-11	PIN, CONNECTOR (PC BOARD) 8P			
CN400	1-774-699-12	JACK, PIN 4P (BUS AUDIO IN, AUDIO OUT)			
CN600	1-794-311-21	PLUG, CONNECTOR 12P			
CN700	1-774-701-11	PIN, CONNECTOR 16P (POWER)			
CN800	1-580-907-31	PLUG, CONNECTOR (BUS CONTROL IN)			
		< DISCHARGE GAP >			
CP100	1-519-504-11	GAP, DISCHARGE			
		< DIODE >			
D100	8-719-921-42	DIODE	MTZJ-T-77-5.1A		
D351	8-719-988-61	DIODE	1SS355TE-17		
D450	8-719-109-72	DIODE	MTZJ-T-77-3.9B		
D500	8-719-200-82	DIODE	11ES2-TA1B		
D501	8-719-200-82	DIODE	11ES2-TA1B		
D502	8-719-200-82	DIODE	11ES2-TA1B		

Ref. No.	Part No.	Description	Remark
D503	8-719-200-82	DIODE 11ES2-TA1B	
D504	8-719-200-82	DIODE 11ES2-TA1B	
D505	8-719-200-82	DIODE 11ES2-TA1B	
D506	8-719-200-82	DIODE 11ES2-TA1B	
D507	8-719-200-82	DIODE 11ES2-TA1B	
D620	8-719-110-03	DIODE MTZJ-T-77-7.5C	
D622	8-719-991-33	DIODE 1SS133T-77	
D630	8-719-110-49	DIODE MTZJ-T-77-18B (CA340)	
D640	8-719-110-49	DIODE MTZJ-T-77-18B	
D650	8-719-110-49	DIODE MTZJ-T-77-18B	
D700	8-719-200-82	DIODE 11ES2-TA1B	
D710	8-719-049-38	DIODE 1N5404TU	
D720	8-719-988-61	DIODE 1SS355TE-17	
D721	8-719-200-82	DIODE 11ES2-TA1B	
D723	8-719-200-82	DIODE 11ES2-TA1B	
D724	8-719-200-82	DIODE 11ES2-TA1B	
D731	8-719-110-14	DIODE MTZJ-9.1C	
D740	8-719-200-82	DIODE 11ES2-TA1B	
D741	8-719-935-40	DIODE HZS6B2LTD	
D750	8-719-988-61	DIODE 1SS355TE-17	
D800	8-719-109-93	DIODE MTZJ-T-77-6.2B	
D801	8-719-110-49	DIODE MTZJ-T-77-18B	
D802	8-719-110-49	DIODE MTZJ-T-77-18B	
D805	8-719-109-97	DIODE MTZJ-T-77-6.8B	
		< IC >	
IC1	8-759-827-78	IC MN101C49GTH	
IC2	6-701-405-01	IC PST3443UL	
IC350	8-759-646-95	IC NJM2082M (TE2)	
IC400	8-759-827-11	IC LC75421M-TLM	
IC500	8-759-827-12	IC TA8272H	
IC800	8-759-096-16	IC MM1175XFF	
		< COIL >	
L1	1-410-509-11	INDUCTOR 10uH	
L100	1-410-322-11	INDUCTOR 3.3uH	
L101	1-412-967-31	INDUCTOR 0.1uH	
L710	1-419-476-11	CHOKE COIL 250uH	
		< TRANSISTOR >	
Q450	8-729-920-21	TRANSISTOR DTC314TK-T-146	
Q451	8-729-920-21	TRANSISTOR DTC314TK-T-146	
Q452	8-729-920-21	TRANSISTOR DTC314TK-T-146	
Q453	8-729-920-21	TRANSISTOR DTC314TK-T-146	
Q620	8-729-043-32	TRANSISTOR PDTA114EK-115	
Q621	8-729-043-29	TRANSISTOR PDTC144EK-115	
Q630	8-729-422-33	TRANSISTOR 2PD601AR-115 (CA340)	
Q640	8-729-422-33	TRANSISTOR 2PD601AR-115	
Q650	8-729-043-27	TRANSISTOR PDTC114EK-115	
Q700	8-729-205-95	TRANSISTOR 2SA1428-OY-TPF2	
Q702	8-729-043-27	TRANSISTOR PDTC114EK-115	
Q703	8-729-205-95	TRANSISTOR 2SA1428-OY-TPF2	
Q704	8-729-043-27	TRANSISTOR PDTC114EK-115	
Q720	8-729-043-33	TRANSISTOR PDTA124EK-115	
Q721	8-729-216-22	TRANSISTOR 2PB709AR-115	
Q722	8-729-205-95	TRANSISTOR 2SA1428-OY-TPF2	
Q724	8-729-205-95	TRANSISTOR 2SA1428-OY-TPF2	
Q725	8-729-043-27	TRANSISTOR PDTC114EK-115	

MAIN

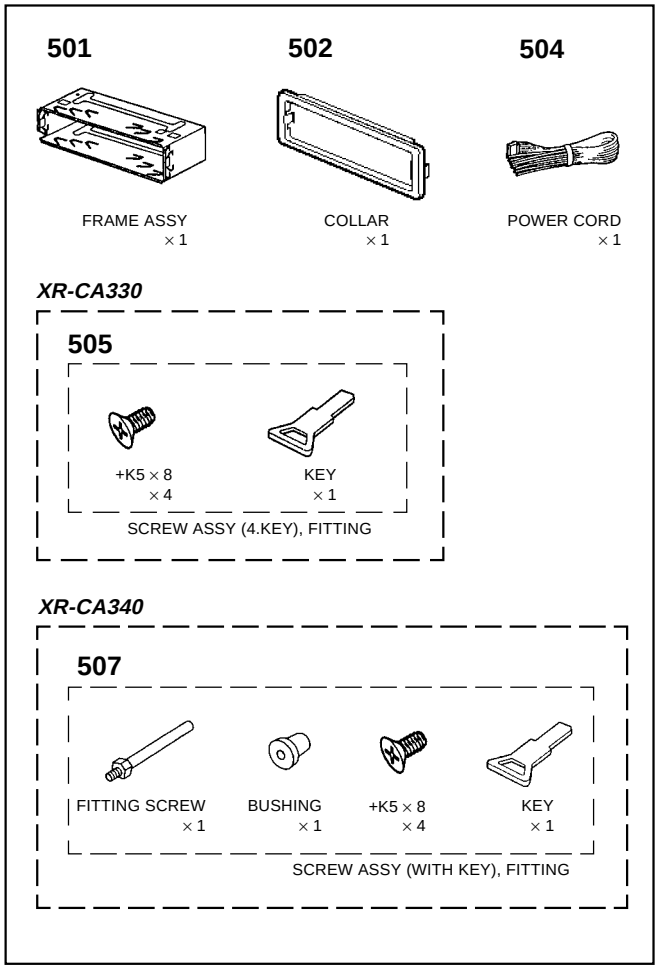
Ref. No.	Part No.	Description			Remark
Q726	8-729-043-27	TRANSISTOR	PDTC114EK-115		
Q730	8-729-921-48	TRANSISTOR	2SD1760F5-TRPQR		
Q731	8-729-216-22	TRANSISTOR	2PB709AR-115		
Q732	8-729-043-27	TRANSISTOR	PDTC114EK-115		
Q733	8-729-904-60	TRANSISTOR	DTB113ZK-T-146		
Q734	8-729-422-33	TRANSISTOR	2PD601AR-115		
Q740	8-729-205-95	TRANSISTOR	2SA1428-OY-TPF2		
Q741	8-729-422-33	TRANSISTOR	2PD601AR-115		
Q750	8-729-216-22	TRANSISTOR	2PB709AR-115		
		< RESISTOR/DIODE/CAPACITOR >			
R1	1-216-295-11	SHORT	0		
R2	1-216-295-11	SHORT	0		
R3	1-216-049-11	RES-CHIP	1K	5%	1/10W
R4	1-216-295-11	SHORT	0		
R7	1-216-025-11	RES-CHIP	100	5%	1/10W
R8	1-216-097-11	RES-CHIP	100K	5%	1/10W
R9	1-216-065-00	RES-CHIP	4.7K	5%	1/10W
R10	1-216-295-11	SHORT	0		
R11	1-216-025-11	RES-CHIP	100	5%	1/10W
R12	1-216-025-11	RES-CHIP	100	5%	1/10W
R21	1-247-807-31	CARBON	100	5%	1/4W
R22	1-216-295-11	SHORT	0		
R23	1-216-097-11	RES-CHIP	100K	5%	1/10W
R26	1-249-441-11	CARBON	100K	5%	1/4W
R27	1-216-089-11	RES-CHIP	47K	5%	1/10W
R32	1-247-807-31	CARBON	100	5%	1/4W
R33	1-247-807-31	CARBON	100	5%	1/4W
R34	1-247-807-31	CARBON	100	5%	1/4W
R41	1-216-025-11	RES-CHIP	100	5%	1/10W
R61	1-216-097-11	RES-CHIP	100K	5%	1/10W
R62	1-216-295-11	SHORT	0 (CA330)		
R63	1-216-097-11	RES-CHIP	100K	5%	1/10W (CA340)
R64	1-216-295-11	SHORT	0 (CA330)		
R67	1-216-097-11	RES-CHIP	100K	5%	1/10W (CA340)
R68	1-216-295-11	SHORT	0		
R69	1-216-097-11	RES-CHIP	100K	5%	1/10W
R70	1-216-295-11	SHORT	0		
R71	1-216-097-11	RES-CHIP	100K	5%	1/10W
R72	1-216-097-11	RES-CHIP	100K	5%	1/10W
R73	1-216-097-11	RES-CHIP	100K	5%	1/10W
R76	1-216-097-11	RES-CHIP	100K	5%	1/10W
R81	1-216-097-11	RES-CHIP	100K	5%	1/10W
R102	1-249-417-11	CARBON	1K	5%	1/4W
R103	1-216-089-11	RES-CHIP	47K	5%	1/10W
R104	1-247-807-31	CARBON	100	5%	1/4W
R105	1-247-807-31	CARBON	100	5%	1/4W
R106	1-247-807-31	CARBON	100	5%	1/4W
R107	1-247-807-31	CARBON	100	5%	1/4W
R108	1-216-097-11	RES-CHIP	100K	5%	1/10W
R111	1-216-043-00	RES-CHIP	560	5%	1/10W
R115	1-216-295-11	SHORT	0		
R116	1-216-085-00	RES-CHIP	33K	5%	1/10W
R117	1-216-109-00	METAL CHIP	330K	5%	1/10W
R120	1-216-081-00	METAL CHIP	22K	5%	1/10W
R121	1-216-081-00	METAL CHIP	22K	5%	1/10W
R122	1-216-085-00	RES-CHIP	33K	5%	1/10W
R123	1-216-085-00	RES-CHIP	33K	5%	1/10W
R130	1-216-065-00	RES-CHIP	4.7K	5%	1/10W
R131	1-216-073-00	RES-CHIP	10K	5%	1/10W
R208	1-216-295-11	SHORT	0		
R350	1-216-089-11	RES-CHIP	47K	5%	1/10W
R351	1-216-089-11	RES-CHIP	47K	5%	1/10W
R352	1-216-073-00	RES-CHIP	10K	5%	1/10W
R353	1-216-073-00	RES-CHIP	10K	5%	1/10W
R354	1-216-023-00	METAL CHIP	82	5%	1/10W
R355	1-216-023-00	METAL CHIP	82	5%	1/10W
R356	1-216-077-00	RES-CHIP	15K	5%	1/10W
R357	1-216-077-00	RES-CHIP	15K	5%	1/10W
R358	1-216-115-00	METAL CHIP	560K	5%	1/10W
R359	1-216-115-00	METAL CHIP	560K	5%	1/10W
R360	1-249-393-11	CARBON	10	5%	1/4W
R361	1-216-049-11	RES-CHIP	1K	5%	1/10W
R362	1-216-049-11	RES-CHIP	1K	5%	1/10W
R363	1-216-033-00	METAL CHIP	220	5%	1/10W
R364	1-249-409-11	CARBON	220	5%	1/4W
R365	1-216-033-00	METAL CHIP	220	5%	1/10W
R366	1-216-033-00	METAL CHIP	220	5%	1/10W
R401	1-216-001-00	METAL CHIP	10	5%	1/10W
R410	1-216-075-00	METAL CHIP	12K	5%	1/10W
R411	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R420	1-216-075-00	METAL CHIP	12K	5%	1/10W
R421	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R430	1-216-073-00	RES-CHIP	10K	5%	1/10W
R431	1-216-073-00	RES-CHIP	10K	5%	1/10W
R432	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R433	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R450	1-216-033-00	METAL CHIP	220	5%	1/10W
R451	1-216-033-00	METAL CHIP	220	5%	1/10W
R452	1-216-033-00	METAL CHIP	220	5%	1/10W
R453	1-216-033-00	METAL CHIP	220	5%	1/10W
R454	1-216-073-00	RES-CHIP	10K	5%	1/10W
R455	1-216-073-00	RES-CHIP	10K	5%	1/10W
R456	1-216-073-00	RES-CHIP	10K	5%	1/10W
R457	1-216-073-00	RES-CHIP	10K	5%	1/10W
R458	1-216-089-11	RES-CHIP	47K	5%	1/10W
R459	1-216-089-11	RES-CHIP	47K	5%	1/10W
R460	1-216-089-11	RES-CHIP	47K	5%	1/10W
R461	1-216-089-11	RES-CHIP	47K	5%	1/10W
R500	1-216-049-11	RES-CHIP	1K	5%	1/10W
R501	1-249-429-11	CARBON	10K	5%	1/4W
R502	1-216-089-11	RES-CHIP	47K	5%	1/10W
R503	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R600	1-249-417-11	CARBON	1K	5%	1/4W
R601	1-249-417-11	CARBON	1K	5%	1/4W
R602	1-249-417-11	CARBON	1K	5%	1/4W
R603	1-249-417-11	CARBON	1K	5%	1/4W
R604	1-249-417-11	CARBON	1K	5%	1/4W
R605	1-249-417-11	CARBON	1K	5%	1/4W
R606	1-249-417-11	CARBON	1K	5%	1/4W
R607	1-249-417-11	CARBON	1K	5%	1/4W
R608	1-216-295-11	SHORT	0		
R620	1-216-017-00	RES-CHIP	47	5%	1/10W

MAIN

Ref. No.	Part No.	Description			Remark
R621	1-216-073-00	RES-CHIP	10K	5%	1/10W
R622	1-249-421-11	CARBON	2.2K	5%	1/4W
R630	1-249-417-11	CARBON	1K	5%	1/4W (CA340)
R631	1-249-437-11	CARBON	47K	5%	1/4W (CA340)
R632	1-216-073-00	RES-CHIP	10K	5%	1/10W (CA340)
R633	1-216-073-00	RES-CHIP	10K	5%	1/10W (CA340)
R634	1-216-097-11	RES-CHIP	100K	5%	1/10W (CA340)
R635	1-216-097-11	RES-CHIP	100K	5%	1/10W (CA330)
R640	1-249-425-11	CARBON	4.7K	5%	1/4W
R641	1-216-089-11	RES-CHIP	47K	5%	1/10W
R642	1-216-089-11	RES-CHIP	47K	5%	1/10W
R643	1-216-065-00	RES-CHIP	4.7K	5%	1/10W
R644	1-216-097-11	RES-CHIP	100K	5%	1/10W
R650	1-249-417-11	CARBON	1K	5%	1/4W
R700	1-216-073-00	RES-CHIP	10K	5%	1/10W
R701	1-249-421-11	CARBON	2.2K	5%	1/4W
R702	1-249-421-11	CARBON	2.2K	5%	1/4W
R703	8-719-200-82	DIODE 11ES2-TA1B			
R704	1-260-300-11	CARBON	4.7	5%	1/2W
R705	1-216-073-00	RES-CHIP	10K	5%	1/10W
R706	1-249-418-11	CARBON	1.2K	5%	1/4W
R720	1-216-081-00	METAL CHIP	22K	5%	1/10W
R721	1-249-421-11	CARBON	2.2K	5%	1/4W
R722	1-249-421-11	CARBON	2.2K	5%	1/4W
R723	1-249-421-11	CARBON	2.2K	5%	1/4W
R724	1-249-421-11	CARBON	2.2K	5%	1/4W
R725	1-249-421-11	CARBON	2.2K	5%	1/4W
R728	1-216-081-00	METAL CHIP	22K	5%	1/10W
R730	1-216-073-00	RES-CHIP	10K	5%	1/10W
R731	1-249-421-11	CARBON	2.2K	5%	1/4W
R732	1-216-041-00	METAL CHIP	470	5%	1/10W
R733	1-249-434-11	CARBON	27K	5%	1/4W
R740	1-216-081-00	METAL CHIP	22K	5%	1/10W
R751	1-216-089-11	RES-CHIP	47K	5%	1/10W
R752	1-216-083-00	METAL CHIP	27K	5%	1/10W
R753	1-216-025-11	RES-CHIP	100	5%	1/10W
R800	1-216-295-11	SHORT	0		
R801	1-216-073-00	RES-CHIP	10K	5%	1/10W
R802	1-216-025-11	RES-CHIP	100	5%	1/10W
R803	1-216-025-11	RES-CHIP	100	5%	1/10W
R810	1-216-097-11	RES-CHIP	100K	5%	1/10W
R811	1-216-295-11	SHORT	0		
R852	1-247-807-31	CARBON	100	5%	1/4W
R853	1-216-295-11	SHORT	0		
R855	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
		< SWITCH >			
S1	1-786-025-21	SWITCH, TACTILE (RESET)			
S60	1-572-552-11	SWITCH, SLIDE (FREQUENCY SELECT)			(CA340)

Ref. No.	Part No.	Description	Remark
		< THERMISTOR >	
TH800	1-801-792-21	THERMISTOR, POSITIVE	
		< TUNER >	
TU100	1-693-524-11	FM/AM TUNER UNIT	
		< VIBRATOR >	
X1	1-795-539-11	VIBRATOR, CRYSTAL (18.432MHz)	
X4	1-567-098-41	VIBRATOR, CRYSTAL (32.768kHz)	
**********			
		MISCELLANEOUS	
		**********	
6	1-776-207-31	CORD (WITH CONNECTOR) (POWER) (CA330)	
6	1-783-736-61	CORD (WITH CONNECTOR) (POWER) (CA340)	
66	1-694-696-31	CONDUCTIVE BOARD, CONNECTION	
69	1-786-305-11	SWITCH, SHEET	
F901	1-532-877-11	FUSE (BLADE TYPE) (AUTO FUSE) (10A)	
HP901	1-500-661-11	HEAD (PLAYBACK)	
LCD900	1-804-512-11	DISPLAY PANEL, LIQUID CRYSTAL	
M901	1-763-507-11	MOTOR (CAPSTAN/REEL)	
S901	1-771-928-11	SWITCH (SLIDE) (DIRECTION)	
S902	1-771-926-11	SWITCH (LEAF) (FF/REW)	
S903	1-771-927-11	SWITCH (LEAF) (TAPE DETECT)	
**********			
		**********	
		HARDWARE LIST	
		**********	
#2	7-685-792-09	SCREW +PTT 2.6X6 (S)	
#3	7-685-794-09	SCREW +PTT 2.6X10 (S)	
#4	7-685-106-19	SCREW +P 2X10 TYPE2 NON-SLIT	
#5	7-621-775-10	SCREW +B 2.6X4	
#6	7-627-553-27	PRECISION SCREW +P 2X2.5 TYPE3	
#7	7-685-101-11	SCREW +PTP 2X3 NON-SLIT	
#8	7-621-255-35	SCREW +P 2X5	
#9	7-621-772-18	SCREW +P 2X4	
#10	7-685-781-09	SCREW +PTT 2X4 (S)	
**********			
		ACCESSORIES	
		**********	
	3-236-832-11	MANUAL, INSTRUCTION (ENGLISH, FRENCH)	(CA330)
	3-236-832-21	MANUAL, INSTRUCTION (ENGLISH,TRADITIONAL CHINESE)	(CA340)
	3-236-833-11	MANUAL, INSTRUCTION, INSTALL (ENGLISH, FRENCH)	(CA330)
	3-236-833-21	MANUAL, INSTRUCTION, INSTALL (ENGLISH, TRADITIONAL CHINESE)	(CA340)
	X-3378-490-2	CASE (PANEL) ASSY	
**********			

Ref. No.	Part No.	Description	Remark
		PARTS FOR INSTALLATION AND CONNECTION	
		**************************************	
501	X-3376-298-1	FRAME ASSY, FITTING	
502	3-041-599-01	COLLAR (CA340)	
502	3-041-599-11	COLLAR (CA330)	
504	1-776-207-31	CORD (WITH CONNECTOR) (POWER) (CA330)	
504	1-783-736-61	CORD (WITH CONNECTOR) (POWER) (CA340)	
505	X-3381-443-1	SCREW ASSY (4.KEY), FITTING (CA330)	
507	X-3381-119-1	SCREW ASSY (WITH KEY), FITTING (CA340)	



REVISION HISTORY

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Ver.	Date	Description of Revision
1.0	2001.10	New